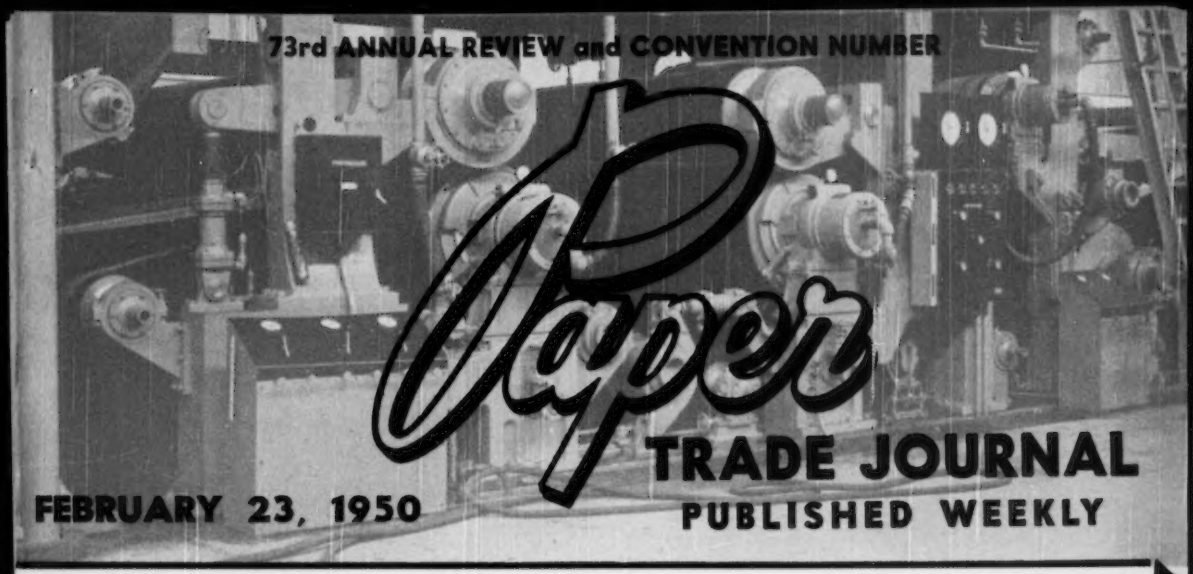
73rd ANNUAL REVIEW and CONVENTION NUMBER



Paper TRADE JOURNAL

FEBRUARY 23, 1950

PUBLISHED WEEKLY

WOOD PULP

G

Established 1886

"Step by step, since Time began,
I see the steady gain of man."
WHITTIER

Consider America's vast industrial progress in the half-century just concluded. Who can doubt greater advances in the years ahead—particularly for the Pulp and Paper industry with its myriad ingenious products.

For nearly two-thirds of a century, we have participated in this unceasing development and enjoyed the goodwill and friendship of three generations of American papermakers. Growth is good . . . growth with friendship strengthened is even better.

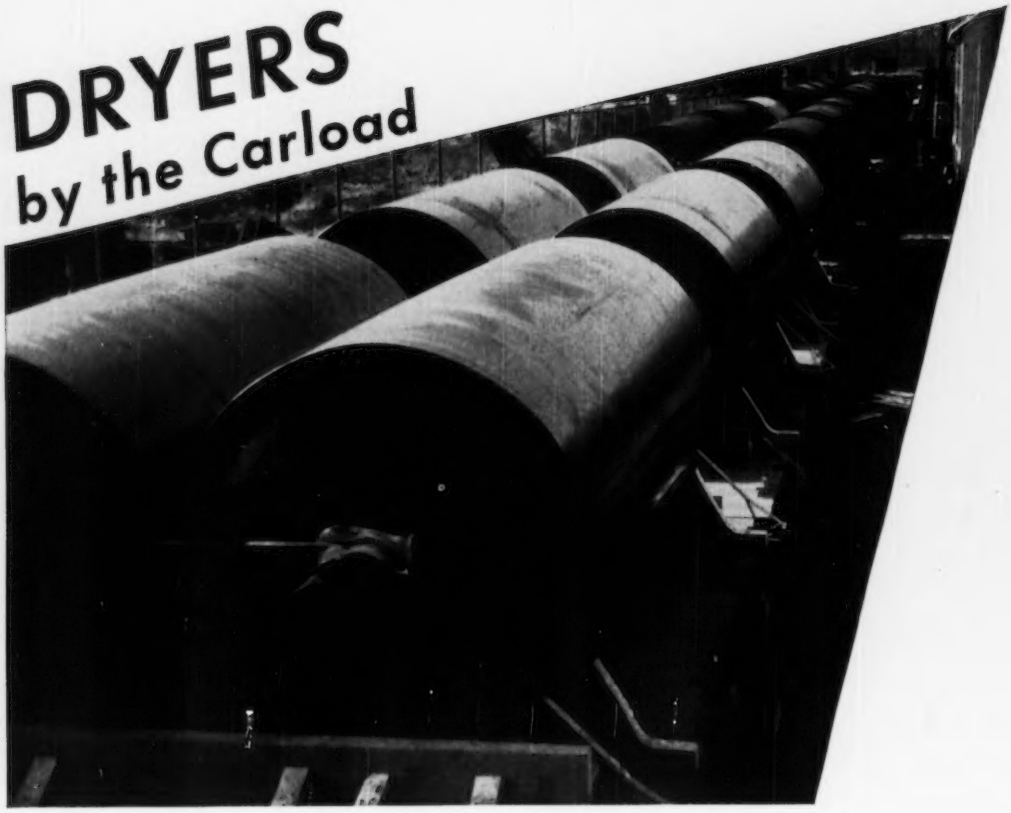
GOTTESMAN & COMPANY

— INCORPORATED —

22 EAST 40th STREET • NEW YORK 16, N. Y.

EUROPEAN OFFICES: Birger Jarlsgatan 8, Stockholm, Sweden

DRYERS by the Carload



—AND ALL ALIKE, TOO

Yes, with Downingtown's new and revolutionary method, using a Cement Bonded Sand Core, you can have a whole carload of dryers and they'll all be identical. Downingtown precision casting produces duplicate, accurately balanced dryer shells which eliminates the need of outmoded balance weights. What's more, these dryers have smooth inner walls with the natural corrosion resistance of the cast surface and uniform shell thickness for even drying of the sheet. Scores of paper makers are now using these new-method Downingtown dryers. They are built in all standard diameters for operating pressures up to 150 P. S. I. and to meet the A. S. M. E. code for Unfired Pressure Vessels. There's no time like the present to find out how these new Downingtown dryers can help you obtain better sheet drying.

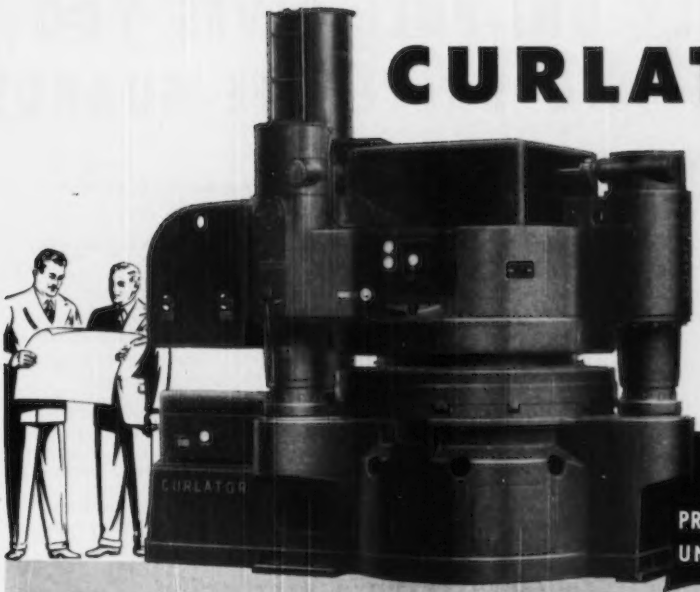
DOWNINGTOWN MANUFACTURING COMPANY

DOWNINGTOWN, PA.

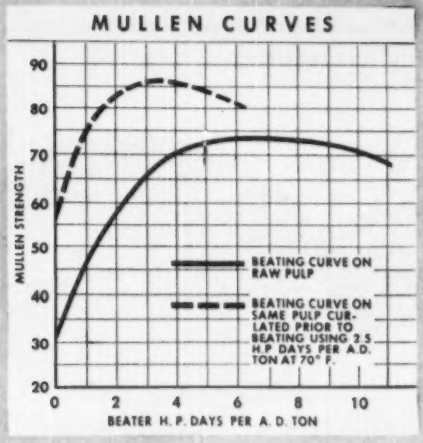
DESIGNERS AND BUILDERS OF PAPER MAKING MACHINERY SINCE 1880

CURLATION*

New Process for Pulp Treatment



Effect of Curlation Prior to Beating, on the Beatibility of
PREVIOUSLY DRIED NORTHERN UNBLEACHED SULPHITE PULP



TEST DATA

	HP DT*	FREENESS	MULLEN	TEAR	DENSO-METER
RAW PULP	0	843	32.4	127	4.2
	1	822	46.2	133	9
	2	813	55.0	114	14
	3	792	66.6	98	23
	5	723	71.8	87	68
	7	628	72.5	75	161
	9	548	73.6	71	454
	10	492	68.2	64	744
	11	413	69.7	64	1808
	14	240	63.5	54	4772
PREVIOUSLY CURLATED PULP	0	840	56.3	142	3.5
	1	805	74.5	116	15
	2	763	82.8	101	27
	3	690	86.0	97	106
	4	608	85.8	83	184
	5	562	80.8	74	544
	7	430	78.3	72	1612
	12	187	65.3	49	2880

*H. P. DAYS PER A. D. TON SPENT IN BEATING ONLY.

The Curlator is a tool for altering the properties of pulp and paper to obtain qualities hitherto unachievable by mechanical means. The effects of curlation vary with the raw material and may be described only in relation to a particular pulp.

NOTE: Description of the testing procedures employed by the Curlator Corporation Laboratory will be provided upon request.

• Illustrated here is the CURLATOR*—the machine that permanently curls and twists pulp fibres to produce improved sheet characteristics.

CURLATION is a fully tested and thoroughly proved mechanical process.

Its accomplishments in improved quality and outstanding savings justify the attention of paper mill executives responsible for sales and profits.

The chart shown here will be followed by others equally informative. Meanwhile, illustrated literature is yours for the asking.

CURLATOR* Corporation

565 BLOSSOM ROAD · ROCHESTER 10, NEW YORK

*T. M. Reg.—Curlator Corporation, Rochester, New York

ONLY UNI-PULL GIVES YOU THESE TWO DRIVE LIFE-GUARDS

Here's compact, waterproofed power-transmission with built-in protection for belt and bearings.

It's the new, Uni-Pull drive—the only belt drive that gives you these trouble-reducing features.

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For modern power-transmission in your paper mill, remember the undivided pull of waterproofed leather belting and the Uni-Pull drive.

American **LEATHER BELTING** *Association*

Headquarters for Authentic Power Transmission Data

41 PARK ROW, NEW YORK 7, NEW YORK

A — *Flat Leather Belt*

B — *Tension-Controlling Motor Base*

AL-45

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Paper TRADE JOURNAL

VOL. 130 FEBRUARY 23, 1950 NO. 8

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DATES TO REMEMBER

FEBRUARY 27-MARCH 3: American Society for Testing Materials, Committee Week & Spring Meeting, Hotel William Penn, Pittsburgh, Pa.

FEBRUARY 28-MARCH 1: National Marketing Conference, Chamber of Commerce of the U.S., Hotel Book-Cadillac, Detroit, Mich.

MARCH 13-15: National Assn. of Waste Material Dealers, Inc., Waldorf-Astoria, New York City.

MARCH 15-17: American Management Assn., Marketing Div., Hotel Statler, New York City.

MARCH 22-23: Folding Paper Box Association of America, 1950 Carton Competition, Annual Meeting, Drake Hotel, Chicago, Ill.

MARCH 27-28: American Society for Testing Materials, Spring Meeting, 1916 Race St., Philadelphia 3, Pa.

MARCH 27-29: National Paper Trade Assn., Hotel Waldorf-Astoria, New York City.

APRIL 25-27: 1950 American Newspaper Publishers Association, Hotel Waldorf-Astoria, New York, 22, N.Y.

JUNE 8-10: American Pulp & Paper Mill Superintendents Assn., Edgewater Beach Hotel, Chicago, Ill.

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MAKES BRILLIANT WHITE PAPERS

97

NOW

SAVES BLEACHED SULPHITE COSTS

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TISSUE FILLER makes brighter white papers.

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TISSUE FILLER produces brighter white papers from ground wood and unbleached sulphite.

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MAKES STRONG PULPS

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GREATER WET STRENGTH

ADDS STRENGTH TO SHORT FIBRES

Definite Results from a unique, Strong Flexible Film

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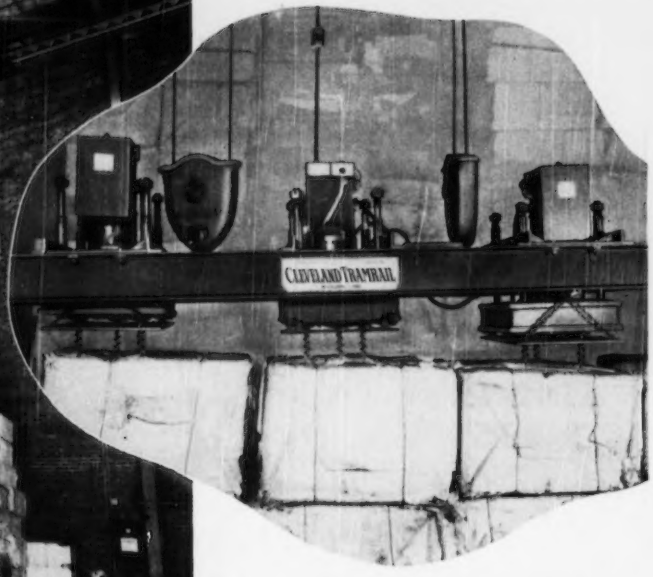
SCREW GRAB REDUCES PULP HANDLING COSTS

200 TONS EASILY HANDLED PER 8-HOUR DAY AT GREATLY REDUCED COST



BALES PILED 35 FT. HIGH

The crane at left equipped with motor-operated screw grab above handles 3 bales at a time. All motions of crane and grab are controlled by operator in crane cab. This building has 5000 tons capacity and is 160'-0" x 50'-0" x 45'-0" truss height.

Man-hours spent handling bales of pulp are greatly reduced when a Cleveland Tramrail overhead crane and screw grab are used. And more pounds are stored per square foot, because no aisleways are required and also because of high piling. Safety is improved.

As a result, great savings are made on both warehousing and handling of pulp. Equipment like this pays for itself in a surprisingly short time. Let us give you details.

GET THIS BOOKLET!

Gives details on a 5000 ton and a 1100 ton pulp warehouse.

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THE CLEVELAND CRANE & ENGINEERING CO.
7117 East 287th Street, Wickliffe, Ohio

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OVERHEAD MATERIALS HANDLING EQUIPMENT

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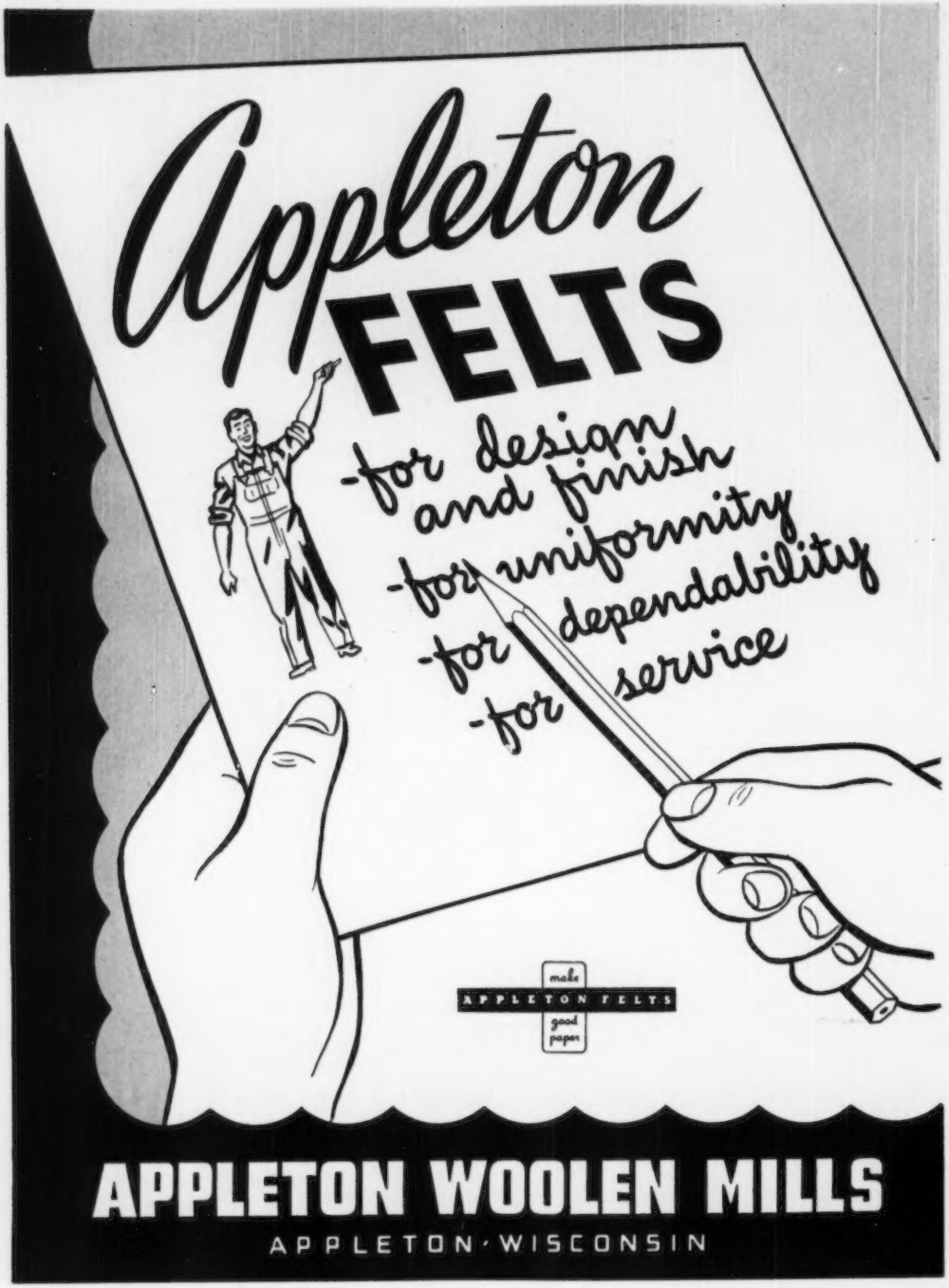
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FELTS
-for design and finish
-for uniformity
-for dependability
-for service
make
APPLETON FELTS
good paper
APPLETON WOOLEN MILLS
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HEPPENSTALL E. I. S. KNIVES CUT CHIP COSTS 3 WAYS

Heppenstall Chipper Knives produce *more* chips at *lower* costs because:

1

They operate more hours between grinds . . . Manufactured from special analysis, electric-induction steel, Heppenstall Knives are built for rugged, heavy duty service. They withstand heavy feeds and cuts in high heat, yet hold their keen edges longer.

2

They take more grinds per knife . . . Quality steel, correct design, and precision finishing result in longer useful service life. Chipper "down-time" for knife maintenance is held to a minimum.

3

They give greater yield and uniformly high-quality pulp . . . Retaining their keen edges during long runs, Heppenstall Knives cut cleanly and reduce logs to easily digested chips—with fewer oversize chips and little sawdust waste.

If you are seeking lower chip costs, investigate the advantages of Heppenstall E. I. S. Chipper Knives. Heppenstall Company, Pittsburgh 1, Pennsylvania.

*For quick identification, look for the new *Tan Color* on edges of Heppenstall Knives and ends of shipping boxes.

A RESEARCH CORPORATION COTTRELL

will save you $1000 to $1500 worth of salt cake every day

The engineer from Research Corporation spoke confidently. He had studied the equipment layout, and noted that the mill had a capacity of 1,000 tons of pulp per day. From his experience and specialized knowledge he knew that he could safely anticipate a minimum recovery of 100 pounds of salt cake for each ton of pulp produced—total: 50 tons of salt cake per day—value: $1,000.00 to $1,500.00 per day dependent upon salt cake cost prevailing at the plant.

Performance like this is the result of over 35 years of experience combined with careful engineering appraisal, attention to details and a remarkably efficient method. These, plus equipment which gives recoveries of 90 to 99%, are responsible for outstanding records of recovery.

If you are losing your chemicals through the stack in a soda or sulphate mill investigate the Research Corporation Precipitator.

RC-108

Research Corporation Installations

47 CARBON BLACK PLANTS
200 METALLURGICAL INSTALLATIONS
203 ACID PLANTS • 34 PAPER MILLS
262 DETARRING INSTALLATIONS
195 POWER STATIONS
71 STEEL PLANTS • 95 OIL REFINERIES
AND MISCELLANEOUS INSTALLATIONS

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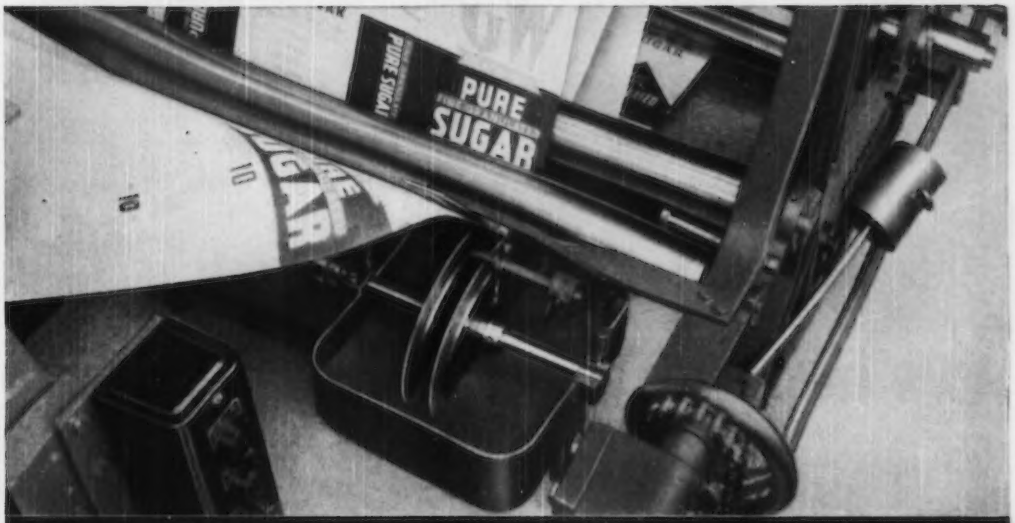

There's a Paisley Scientific Adhesive for Every PAPER BAG Job!

PAISLEY Scientific Research has developed a group of *vastly improved* paper bag adhesives. Now you can get, from this *one, big, dependable source,* a *better* glue, paste or cement for every type of operation in the paper bag plant. Whether you apply by hand or by high speed machine . . regardless of the kind of papers or films to be bonded . . there's a Paisley Scientific Adhesive designed to do each specific job quickly, efficiently, and at lowest cost.

CHECK THIS LIST AGAINST YOUR NEEDS!

1. *Non-hygroscopic glues for salt and sugar bags.*
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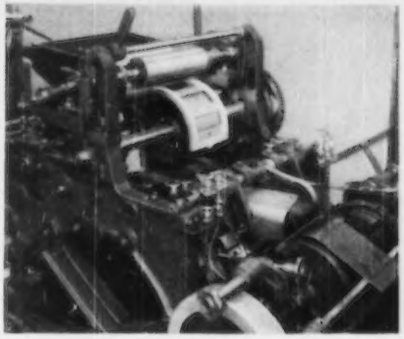
4. *Flat-laying non-staining glues for moisture-proof cellophane bags.*
5. *Flat-laying* window *adhesives for all kinds of transparent films.*
6. *Flat-laying seam and bottom pastes for bags used in millinery and retail merchandising stores.*
7. *Clean machining resin emulsion adhesives for asphalt-laminated and coated papers.*

Take full advantage of Paisley Scientific Adhesive Developments. Mail the coupon below for our Adhesive Operation Data Sheet. Fill in and return it promptly. Our skilled laboratory staff will study your problem and recommend the ONE best adhesive for the operation. No cost or obligation.



TOP: POTDEVIN self-opening, square, sugar and flour bag machine with double wheel seam paste pot.

BOTTOM: Self-opening, square, POTDEVIN grocery bag machine showing bottom paste sector.

TEAR OUT . . FASTEN TO LETTERHEAD AND MAIL!

Gentlemen: Please send us, at once, your Adhesive Operation Data Sheet. We'll appreciate the assistance of your laboratory staff in making a scientific survey of our paper bag adhesive problems.

FIRM_____ BUYER_____

STREET_____ CITY_____ STATE_____

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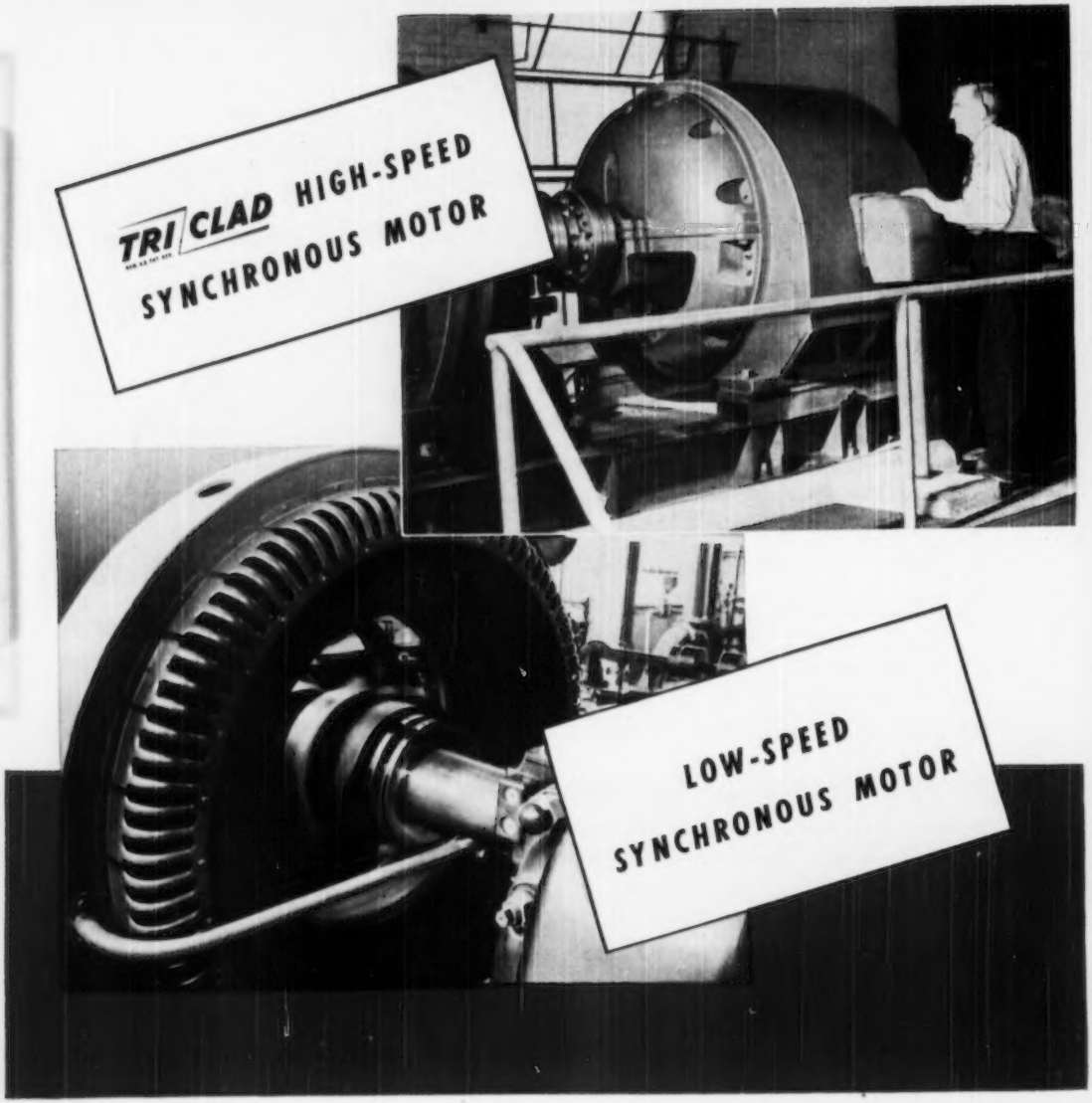
SAVE

on operating costs



USE GENERAL ELECTRIC SYNCHRONOUS MOTORS

SYNCHRONOUS MOTORS PAY THEIR OWN WAY

Yes, in certain applications a synchronous motor is cheaper to operate because it is more efficient than other electric motors.

Here's an example:

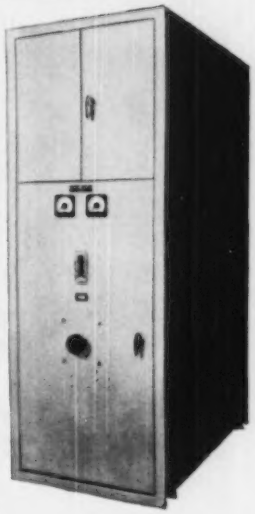
Compare a 200 hp, 2300 volt, 900 rpm synchronous motor with another type of motor of the same rating. Actual testing shows that the synchronous motor including its exciter loss is around 94% efficient while the other motor is about 92% efficient. The two per cent gain by the synchronous motor looks small but in this instance, where the motor operated sixteen hours a day, it meant a $200.00 annual saving in power costs, based on a $.01 per kwh power cost.

Your General Electric salesman can point out many applications where **synchronous motors have a lower initial cost** in addition to **lower operating cost.**

REMEMBER—Efficiency pays off in dollars and General Electric synchronous motors give you increased efficiency, in many instances at **lower first cost.**

Don't think of buying your next motor without seriously considering the application of **money-saving synchronous motors** in your plant. Call your G-E salesman right now, he has good news for you. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

G-E SYNCHRONOUS MOTOR CONTROL GUARDS EFFICIENCY



The new G-E synchronous motor control provides the accurate adjustments that enable you to improve power factor—increase efficiency. Here's where details count—where the slightest variation of a pointer on a meter means money saved—or lost. New meter design prevents any possibility of misreading the scale.

The new, smaller rheostat, too, has design features that not only result in longer life, but in greater operating convenience and accuracy. You can be sure, too, that the new field circuit will respond instantly to rheostat adjustment.

Steel cabinets not only protect personnel and equipment, but are designed to line up with other G-E power units such as switchgear, thereby improving plant appearance.

Ask your nearest G-E office for more information about this equipment that safeguards your investment . . . helps save on operating expenses.

GENERAL ELECTRIC

Apparatus Dept., Sec. G770-8,
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1 River Road, Schenectady 5, N. Y.

Gentlemen: I would like more information on the advantages of synchronous motors. Please send me the indicated descriptive literature.

Low Speed	*High Speed*	*Control*
☐ GEA-529D	☐ GEA-5113	☐ GEC-505

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Company .....

Street .....

City ..... **State** .....

CHEMIPULPER

(Patented and Patents Pending)

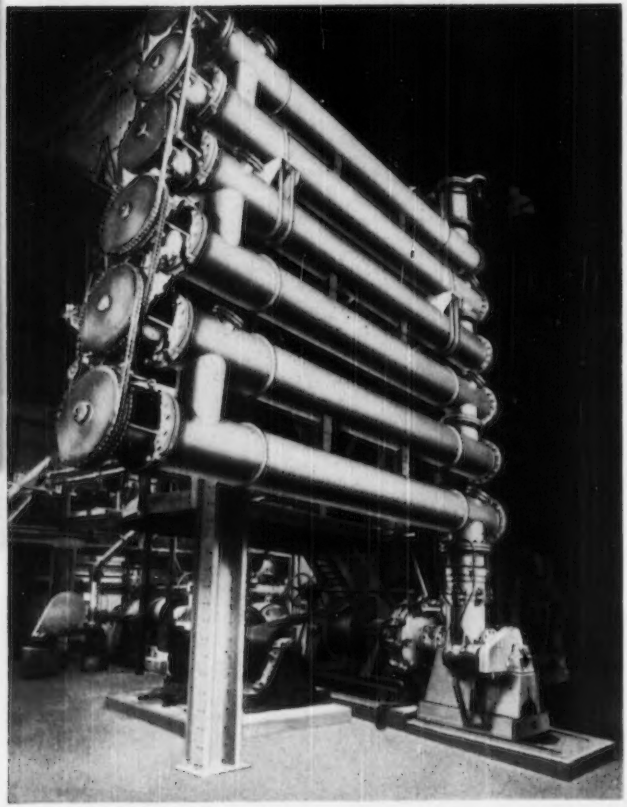
50 OPERATING INSTALLATIONS IN THE PULP AND PAPER INDUSTRIES

The Chemipulpers in these mills are making uniform pulp at low cost, for insulating board; flooring, roofing and automotive felts, and corrugating board. Other grades of pulp are made from either hard or soft woods, or mixtures of such woods.

The Chemipulper operates as a continuous digester for cooking and pulping of chemical and semi-chemical pulps . . . in 150 to 175 p. s. i. steam pressure range. Uses either neutral sulphite or alkaline cooking liquors.

Cooking factors of time, temperature and chemicals adjustable to conform to variables in raw materials and to accurately meet predetermined requirements.

•

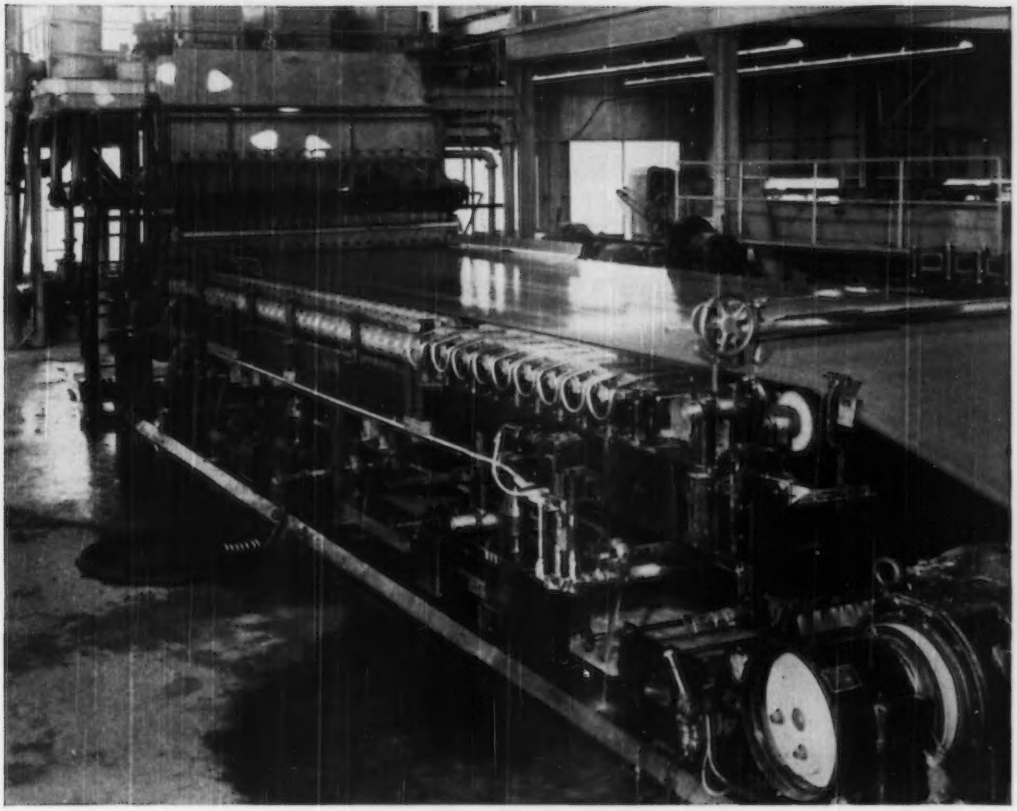


The Reaction Chamber is made in units and the number of these can be varied according to the degree of treatment required.

Illustration shows combination of Asplund Defibrator with multiple-unit reaction Chamber

Catalog upon request

PAPER and INDUSTRIAL APPLIANCES, INC.
122 EAST 42nd STREET NEW YORK, N. Y.



A Stainless Steel Fourdrinier with Built-in Versatility

Few machines ever contained as many new designs or special features to meet exacting modern requirements as the new Downingtown Stainless Steel Cantilevered Fourdrinier now making .009 corrugating at the expanded and modernized mill of Sonoco Products Co., Hartsville, S. C. This Fourdrinier, with a wire 144 inches by 92 feet and speed range of 150 to 1500 FPM, is designed to produce 100 tons of .009 container board daily. There are nine stainless steel flat suction boxes, suction couch roll with double suction box opening, a stainless steel head box with five point stock inlet, several passes to even the flow, two stainless steel distributing rolls, a foam shower, and both high and low speed stainless steel slices. Plus these other exclusive Downingtown features—easy wire changing, new level adjustment while running, new type shake rails, modern multiple shake mechanism, balanced wire rolls, new motor-operated stretchers, new permanent piping, no connections to break when changing wire and new corrugated stainless steel save-alls. This is versatility and perfection in paper machine manufacture! And here's conclusive proof: The machine produced saleable paper on the first roll! For the best in Fourdrinier and board machines and auxiliaries, consult Downingtown.

DOWNINGTOWN MANUFACTURING COMPANY

DOWNINGTOWN, PA.

DESIGNERS AND BUILDERS OF PAPER MAKING MACHINERY SINCE 1880

West Virginia Mill Brand Papers

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POST CARD
COVER
MUSIC
BOND
LINING
WRITING
DRAWING
ENVELOPE
LITHOGRAPH
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ROTOGRAVURE
MIMEOGRAPH
EGGSHELL
POSTER
LABEL
TAG
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COATED
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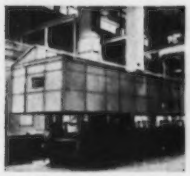
Williamsburg, Pennsylvania
Charleston, South Carolina



The Industry's Symbol Of The

FINEST IN AIR HANDLING EQUIPMENT...

On all classes of industrial equipment there are certain makers' names that are universally associated with the ultimate in character and quality of product. On Air Handling Systems—for heating, cooling, controlling and conditioning air—that name is ROSS. The new ROSS name plate (pictured below) on a piece of plant equipment will identify that plant as one where the most modern and efficient methods are being utilized to insure the finest quality of finished product. It is the symbol of an accurately engineered, carefully constructed piece of apparatus designed to completely fulfill the ROSS high standard of performance.

ROSS SYSTEMS

J. O. ROSS ENGINEERING CORPORATION

MANUFACTURERS OF AIR PROCESSING SYSTEMS

350 MADISON AVENUE NEW YORK 17, N. Y.

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ROSS ENGINEERING OF CANADA, LIMITED, MONTREAL, CANADA • CARRIER-ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

It Is Just Common Sense!

The way

the Morden "Stock-Maker" combines beating or refining into one simple and continuous operation.

More than 350 "Stock-Makers" in over 100 mills have proven its superiority for the vast majority of stock treatment requirements.

May we assist you in surveying "Stock-Maker's" advantages for your particular requirements?

MORDEN MACHINES COMPANY

PACIFIC BUILDING • PORTLAND 4, OREGON

in Canada
The William Kennedy & Sons, Ltd., Owen Sound, Ontario

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Eastern Sales Representative: Union Machine Company, Fitchburg, Massachusetts

JOIN THE TREND

TO HIGHER QUALITY, LOWER PRICED PAPERS

Bleach your groundwood with the

DU PONT PEROXIDE BLEACHING PROCESS

AVAILABLE! IN DRUMS AND TANK CARS

DU PONT

"ALBONE" 35 Hydrogen Peroxide 35%

"ALBONE" 50 Hydrogen Peroxide 50%

"SOLOZONE" Sodium Peroxide

FOR THE GREATEST ECONOMY CONSIDER

If you need 5,000 lbs. or more of "Albone" Hydrogen Peroxide per month, you'll find a storage tank installation economical. Du Pont engineers will help in the planning and facilities for bulk storage and handling.

MORE AND MORE mills are turning to peroxide bleached groundwood as the answer to the demand for low priced papers which must have brightness, bulk, opacity, absorbency and good printing properties. It is particularly useful for printing papers where high strength and long life are not essential. Substantial savings in manufacturing costs can be made because you start with a low cost fiber. Through peroxide bleaching it is possible to get improved opacity in a lighter weight sheet. For the production of many kinds of paper there may be a saving of 10% to 20% in fiber cost.

Peroxide bleached groundwood is now a regular item in a substantial number of integrated and non-integrated mills. Groundwood bleaching can be easily and economically installed in practically any mill.

Peroxide bleaching is not limited to groundwood. It can be adapted to soda, sulfite, semi-chemical pulps and for waste paper recovery.

Technical service and assistance in peroxide bleaching is available from the men who pioneered the development of groundwood bleaching. For more information about Du Pont peroxides and Du Pont bleaching processes, just fill in and mail the coupon below.

DU PONT

PEROXIDES

DU PONT

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Dept., Wilmington 98, Delaware

Please send me further information about Du Pont peroxide bleaching processes: (check application).

_____Groundwood _____Sulfite _____Soda Pulp

_____Semi-chemical pulps _____Waste paper recovery

*Name*_____

*Position*_____

*Firm*_____

*Address*_____

SOLKA®

offers you a *complete* range of highly purified "extreme-specification" wood fibres

SOLKA is the trade name of a complete range of highly purified Brown Company pulps which possess carefully graduated chemical and physical properties. The Solka pulps are designed to satisfy the unusual requirements of papers specifically engineered for particular qualities such as maximum durability — extreme softness, etc.

The eight grades of SOLKA pulp include soft wood and hard wood fibres — sulphate and sulphite pulps and offer the widest range of chemical and physical properties to the manufacturer faced with unusual paper problems.

Our technical service department is always at your service for the development of special furnishes to meet particular paper problems.

BROWN COMPANY

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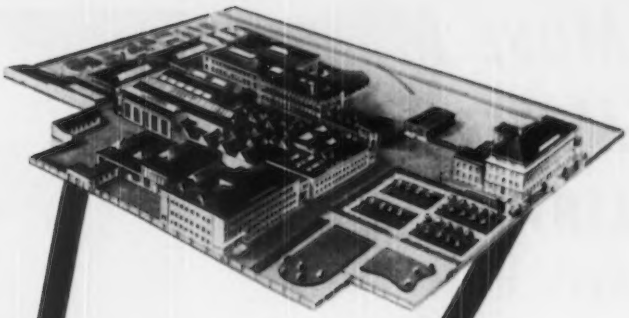
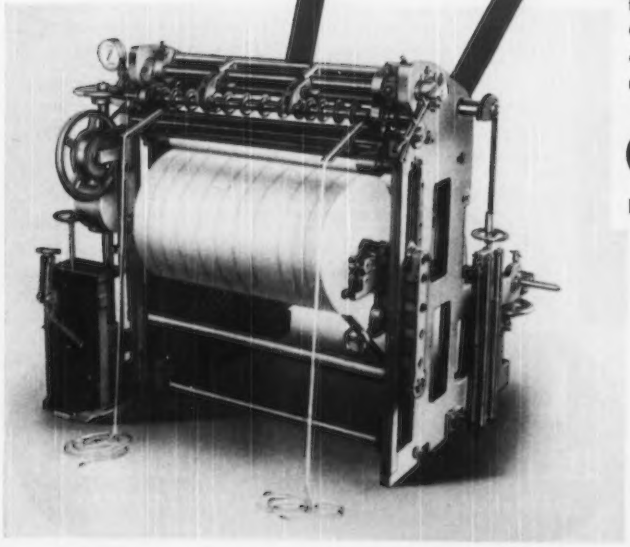


In the engineering center of Europe,

there is this plant,

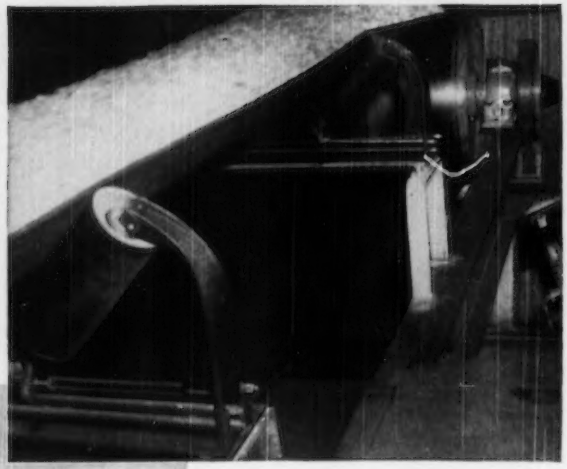
well known for its experience in the production of top quality slitters and winders. This illustration shows you only one of many new models. Goebel slitters will help you to do your job accurately and most efficiently • Write for technical details and general information. Apply to



GOEBEL A·G

DARMSTADT · US ZONE · GERMANY

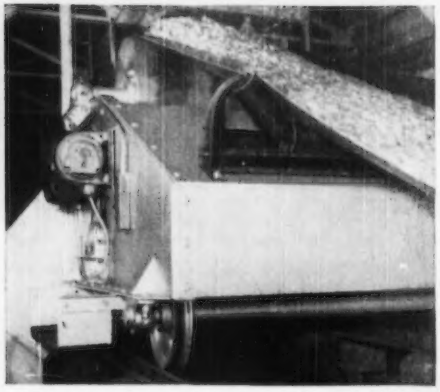
MOVE MORE MATERIAL on LINK-BELT 45° BELT CONVEYOR IDLERS →



Illustrating the high capacity obtainable with 45° idlers without spillage.

Equipped with 45° idlers, this 24 inch wide belt conveyor handles wood chips from chipper to storage bins.

Greater all-round efficiency of belt conveyors is reported by mills, where Link-Belt 45 degree troughing idlers have been in use for the past several years.



45° idler forming part of Link-Belt motor driven tripper on 48 inch wide belt conveyor delivering wood chips to storage bins.

The carrying capacity for a given belt width is increased, or a narrower belt can be used to handle a given volume. With self-aligning idlers installed at recommended intervals, the belt is protected and preserved from damage, excess wear, spilling or below-capacity loading, due to misalignment.

Link-Belt 45° troughing idlers are available in two styles: with *unequal length rolls*, the center roll being longer than the two end rolls, the latter being of equal length, and with *equal* length rolls, where all three rolls are of equal length.

The unequal length idlers accommodate belt widths up to 60 inches. The equal length idlers accommodate belts up to 72 inches wide.

Let Link-Belt engineers show you how the 45° troughing idlers can increase your handling capacity and reduce costs.

LINK-BELT

BELT CONVEYOR EQUIPMENT

IDLERS • TRIPPERS • BELTS • PULLEYS • BEARINGS • DRIVES

LINK-BELT COMPANY

Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Dallas 1, Houston 3, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices in Principal Cities. 11.103

Packages pigmented with Titanox

STAND OUT

Titanox pigments build arresting quality into many kinds of paper stock. They increase visibility, legibility and add sales-impelling package-appeal by: 1.) producing white, bright and opaque papers and lined board that resist yellowing—minimize show-through. 2.) producing sharp, clear tints. 3.) maintaining equal opacity and brightness in light and heavy stock. 4.) increasing opacity at constant brightness.

Titanox pigments are equally applicable to beater-pigmented papers, tub and calender sized stock and coated stocks. Their uniform fineness assures easy, complete dispersion, speeds production and lowers costs.

For beater-pigmented stocks, TITANOX-A-WD or TITANOX-A-MO are preferred. In tub or calender sizing, TITANOX-A or TITANOX-RCHT are the pigments of choice. For coated stocks whether clay, wax or resin emulsion, either TITANOX-A or TITANOX-RCHT are recommended.

Our Technical Service Department is always ready to serve as a partner in solving your paper pigmentation problems. Write us today for further information. Titanium Pigment Corporation, 111 Broadway, New York 6, N. Y.; 104 South Michigan Avenue, Chicago 3, Ill.; 2600 South Eastern Avenue, Los Angeles 22, Calif. Branches in all other principal cities.

® **TITANOX**

the brightest name in pigments

TITANIUM PIGMENT CORPORATION

Subsidiary of NATIONAL LEAD COMPANY

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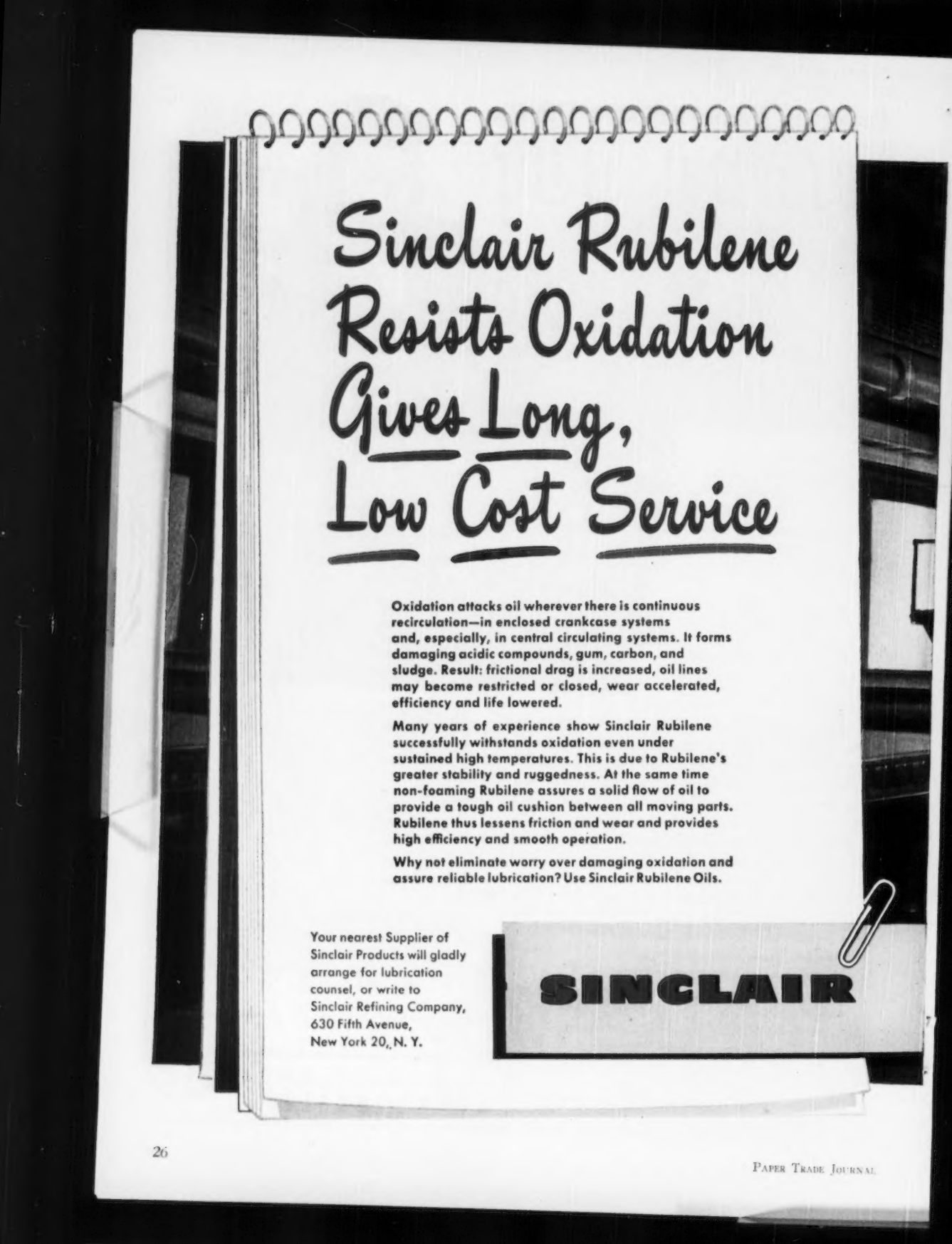


Sinclair Rubilene Resists Oxidation Gives Long, Low Cost Service

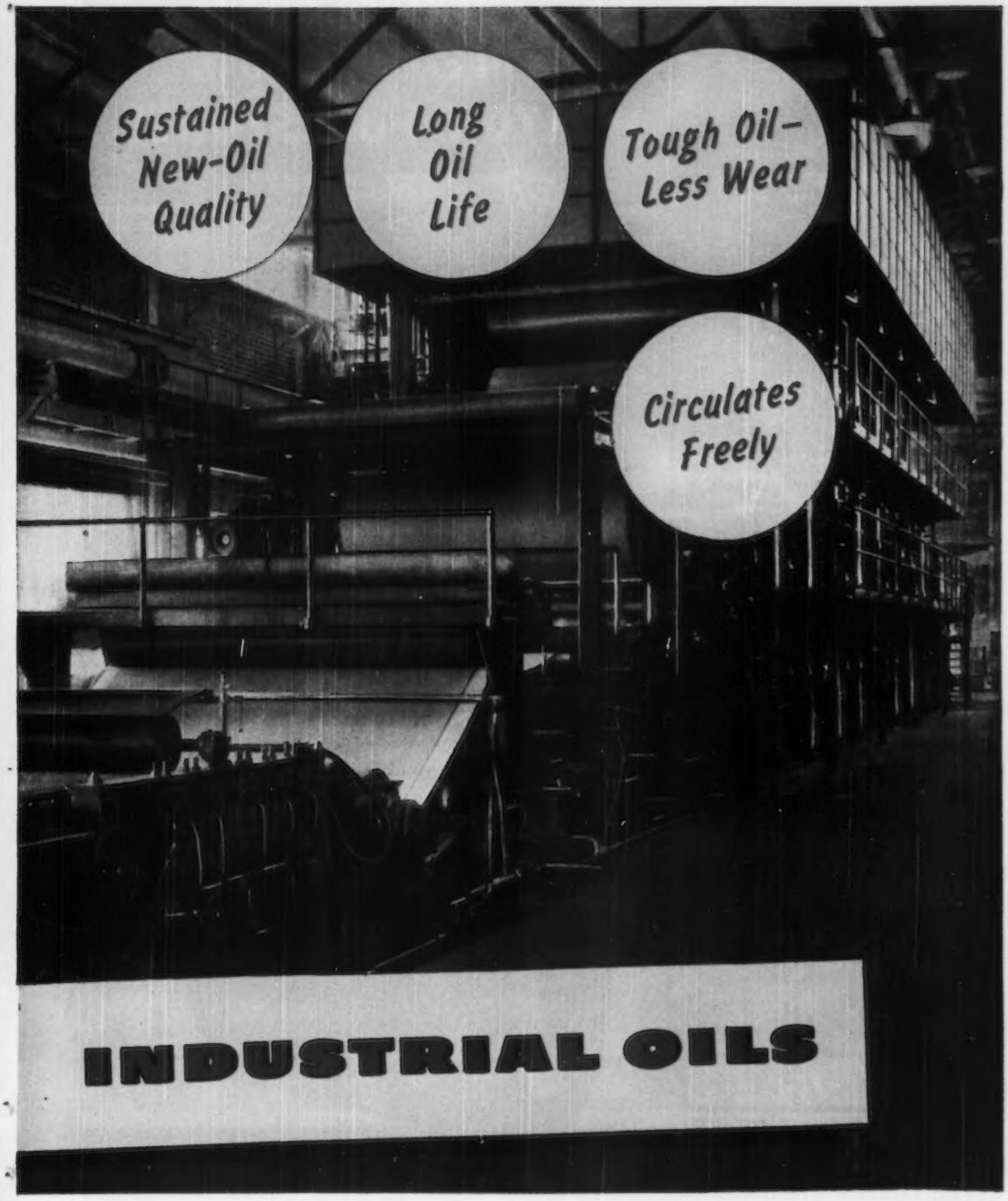
Oxidation attacks oil wherever there is continuous recirculation—in enclosed crankcase systems and, especially, in central circulating systems. It forms damaging acidic compounds, gum, carbon, and sludge. Result: frictional drag is increased, oil lines may become restricted or closed, wear accelerated, efficiency and life lowered.

Many years of experience show Sinclair Rubilene successfully withstands oxidation even under sustained high temperatures. This is due to Rubilene's greater stability and ruggedness. At the same time non-foaming Rubilene assures a solid flow of oil to provide a tough oil cushion between all moving parts. Rubilene thus lessens friction and wear and provides high efficiency and smooth operation.

Why not eliminate worry over damaging oxidation and assure reliable lubrication? Use Sinclair Rubilene Oils.

Your nearest Supplier of Sinclair Products will gladly arrange for lubrication counsel, or write to Sinclair Refining Company, 630 Fifth Avenue, New York 20, N. Y.

SINCLAIR


Sustained New-Oil Quality
Long Oil Life
Tough Oil– Less Wear
Circulates Freely
INDUSTRIAL OILS

There's been some changes made!

IN CARS . . . AND IN NORTON PULPSTONES

1926

IN 1926 Norton introduced to the paper industry the *first* manufactured pulpstone. It was made only in CRYSTOLON abrasive, in one structure and in a very limited number of grain sizes. Its use was confined largely to producing newsprint pulp in grinders with a power input of about 400 H. P.

But the paper industry was quick to take advantage of the new tool that Norton had developed for it.

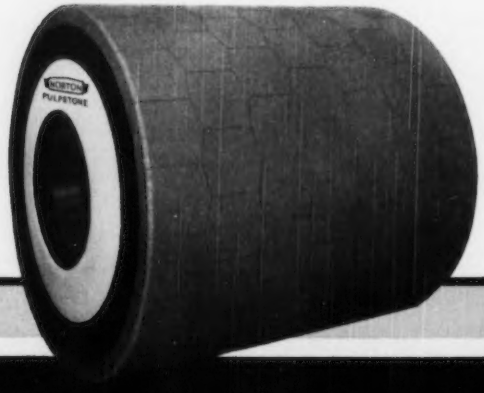
1950

CLOSE co-operation between Norton technicians and those of the paper industry led to rapid and continual improvements in the Norton Pulpstone and thereby expanded opportunities for its application.

Today the Norton Pulpstone is operating in grinders with a power input in excess of 3500 H. P. Its several abrasives, range of structures and variety of grit sizes make possible an infinite number of combinations. Thus from many kinds of wood it is producing the types of pulp required not only for newsprint but also for magazine paper, insulating board, molded paper products, hanging papers and countless others.

Yes, the paper industry was quick to take advantage of the new tool which Norton originated and introduced to it 24 years ago.

It's easy to tell at a glance the vast improvement that has been made in the automobile between 1926 and 1950. Visually the difference between the original Norton Pulpstone of twenty-four years ago and the Norton stone today is not so apparent but its technological improvement has been tremendous.



NORTON ABRASIVES

"Making better products to make other products better"

NORTON COMPANY, WORCESTER, MASS. • NORTON COMPANY OF CANADA, LTD., HAMILTON, ONT.

KEY GROUP GUIDES SERVICE POLICIES AT LINDSAY

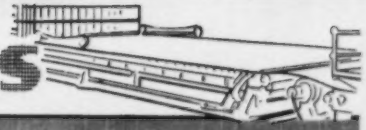
Lindsay's Key Committee meets regularly in your interest and ours.

Our "key group" is made up of men who, invited often to conference, contribute their best thinking to the operation and management of this company. Believing that Lindsay's welfare is their welfare, they contribute much. Frequent sessions of our "key committee" have gone far to build efficiency, safety and morale at Lindsay, to the end that your plant, too, may continue its uninterrupted, profitable operation.

The Quarter Century Club meets. Men work long and happily at Lindsay.

THE LINDSAY WIRE WEAVING COMPANY
14001-14299 ASPINWALL AVE., CLEVELAND 10, OHIO

Lindsay WIRES



FOR PAPER MILLS

LET TAYLOR HANDLE YOUR FLOW PROBLEMS

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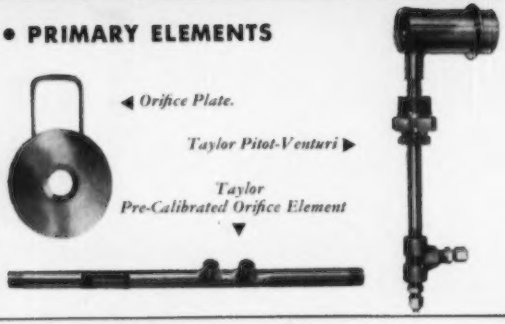


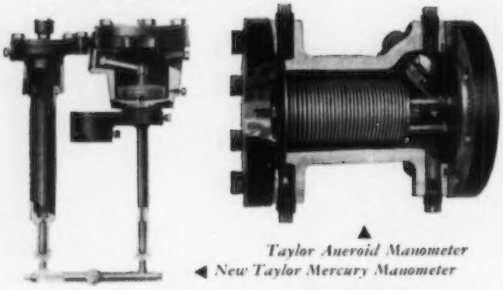
◀ *Orifice Plate.*

Taylor Pitot-Venturi ▶

Taylor Pre-Calibrated Orifice Element ▼

(1) Thin and thick type Orifice Plates from 2 to 24" in all standard materials. (2) Pre-Calibrated Orifice Assembly for high-accuracy with pipe sizes less than 2" are a "Specialty of the House" with Taylor. (3) The new and exclusive Taylor Pitot-Venturi Flow Element which produces greater differential with practically no pressure loss—7 to 10 times greater than by the conventional Pitot Tube. (4) Also standard Venturi Tubes. (5) Flow Nozzles from 3 to 14" in all standard materials.

• FOR MEASUREMENT

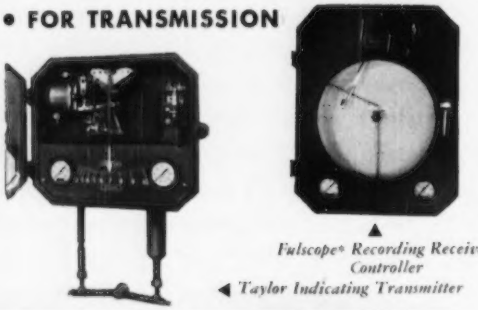


▲ *Taylor Aneroid Manometer*

◀ *New Taylor Mercury Manometer*

(1) New Taylor high-accuracy Mercury Manometer which features Teflon bearings, high energy output, submerged check valves, ½ of 1% accuracy, an adjustable leakless damping unit, and interchangeable range tubes for continuous ranges from 10 to 533 inches of water. (2) Taylor Aneroid (Mercury-less) Manometer, available in All-316 Stainless Steel or Cast Steel, accurately measures flow of hard-to-handle corrosive materials. No mercury to replace, no stuffing box. Sealing fluids or blow-back systems seldom needed. Long service. Easy cleaning. Easy range changes. Both Manometers available with Square Root Integrators.

• FOR TRANSMISSION



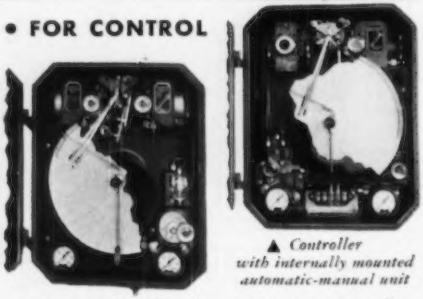
▲ *Fulscope* Recording Receiver Controller*

◀ *Taylor Indicating Transmitter*

Taylor Remote Transmission Systems accurately, quickly, economically, and safely transmit rate of flow to conveniently located point. Transmitters can be indicators, recorders or controllers. High accuracy—systems are calibrated to within ½ of 1% accuracy. High speed—only 2-second lag in 300 feet. Gives central control of widely distributed processes at one convenient point. Concentric dial transmitter with Mercury Manometer also available.

*Trade Mark

• FOR CONTROL



▲ *Controller with internally mounted automatic-manual unit*

▲ *Fulscope Recording Pneumatic-Set Flow Controller*

Indicating or recording controllers in single or double duty form, with adjustable sensitivity or automatic reset. Ratio Flow Controllers with two Manometers attached. Control point may be adjusted by any other process variable. Pneumatic-set controllers whereby control point can be pneumatically adjusted from any remote location. Internally or externally mounted automatic to manual units.

• • •

For complete details, write for new Flow Catalog 98175, or ask your Taylor Field Engineer. He'll show you how Taylor Instrumentation can help you solve *any* flow problem. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

LIKE OLD FRIENDS...

Printers and advertisers instinctively turn to Northwest Pedigreed Papers as they would turn to old friends for helpful cooperation. And they are never disappointed because at Northwest, papermaking is more than a fine art . . . it is a public service imbued with tradition . . . a tradition built upon uncompromising integrity both in the product and in all dealings. Northwest Papers will never fail you—never betray your confidence. Depend upon them to be all that good paper can be.

THE NORTHWEST PAPER COMPANY

Mills at Cloquet and Brainerd, Minnesota

HEADS OR TAILS... You Win!

BUYER: Which is the printing side?

MILL MAN: Top side, of course.

BUYER: Which is top side? I don't see much difference.

MILL MAN: There isn't much difference. We use Hamilton Felts both top and bottom and put a smooth finish on *both* sides.

BUYER: This is the board I'm looking for. It will keep our inks from offsetting in the high-speed printing and folding machines.

MILL MAN: I'll enter your order for a carload at once. You'll want more.

• *From the thinnest tissue to the heaviest board there are Hamilton Felts that will give all your sheets a finer finish at lower cost.*

SHULER & BENNINGHOFEN, HAMILTON, OHIO

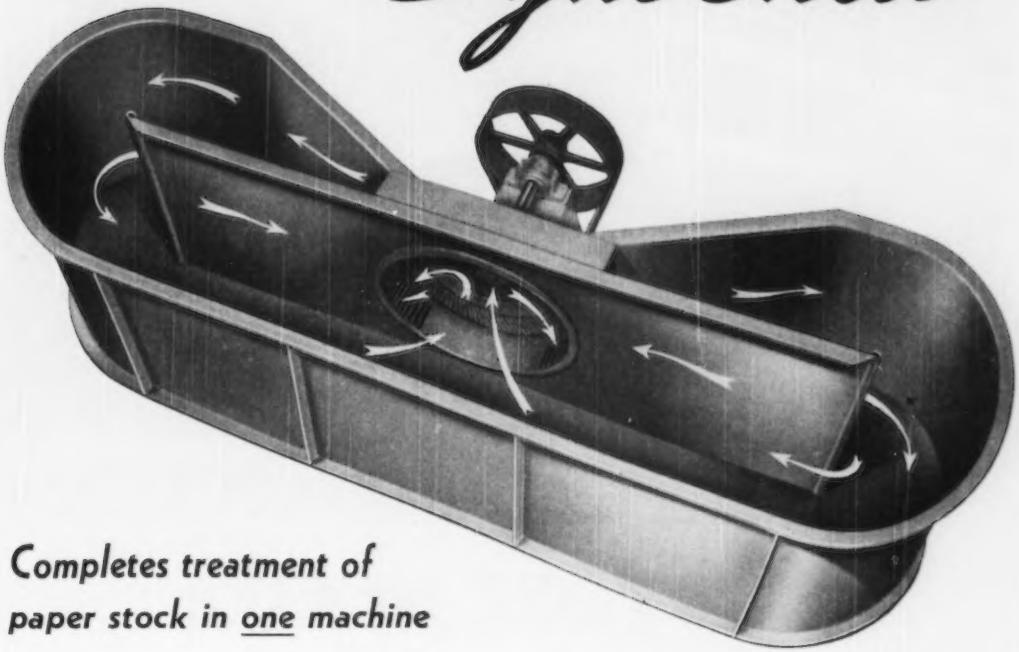
• Miami Woolen Mills •

Hamilton Felts

• Established 1858 •

Here's the New Rice Barton

DynoChest



Completes treatment of paper stock in one machine

The DynoChest uses the effective dynomizing action to disintegrate broke and waste paper. It also takes stock in slush form from a pulper and completes the defiberization and separation of the fibres quickly and efficiently. It can be used to excellent advantage ahead of any de-inking system. The DynoChest can be used also as a storage chest while completing defiberization.

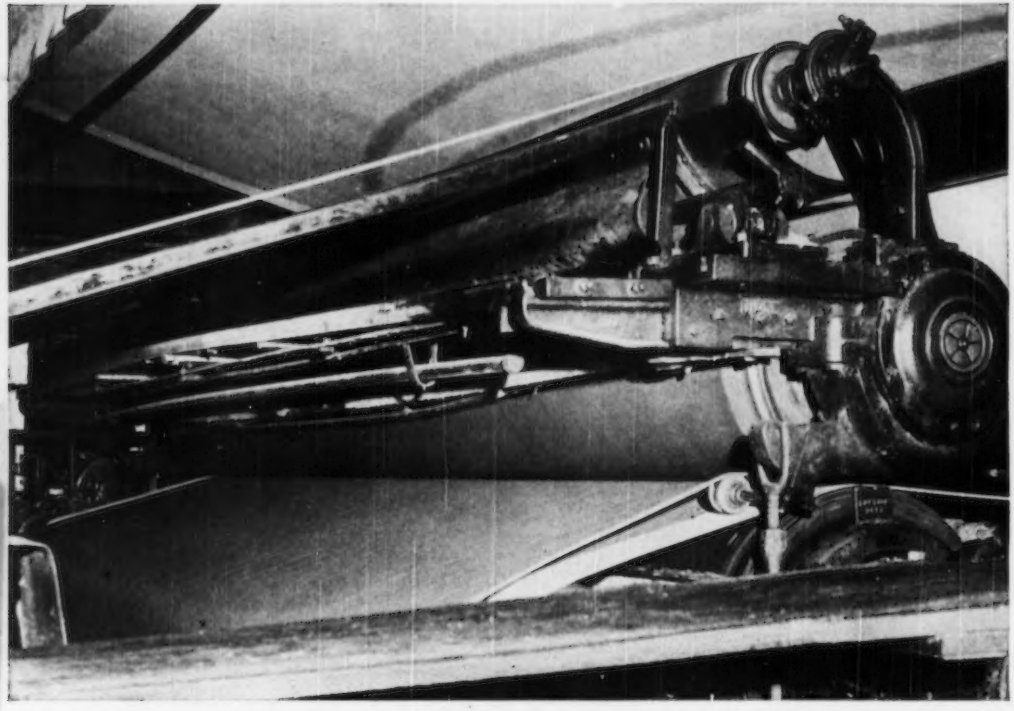
The vat can be made for most any capacity from 300 to 3,000 lbs. . . of any selected metal or of tile.

This machine is most economical on horsepower and maintenance as there is only one moving part.

The DynoPeller
is the heart of all DynoMachines. Its concave face is lined with rough, hard carbide particles. As the DynoPeller rotates it causes a suction at its center that pulls the stock towards it. Centrifugal force then causes the stock to flow rapidly over the rough carbide particles. This effective dynomizing action completely disintegrates the stock . . . separating each fibre from its neighbor while maintaining its original length.

Write for complete information.

RICE BARTON Research Corporation
WORCESTER 1, MASS.



CUSTOM-MADE ROLL COVERINGS

When your rubber-covered rolls need recovering, *in your own best interest* consult U. S. Rubber engineers. They will analyze operating conditions in your mill, checking operating speeds, working pressures, types of stock and all the other factors entering into the proper recommendation of the U. S. Rubber roll covering which will best meet your requirements.

Back of these experts is a most impressive backlog of experience and research data in the rubber industry, as well as laboratories containing machines and working facilities that are the finest in the industry.

For complete continuity of rubber roll covering, no matter what the machine, from board to fine paper, consult "U. S." engineers. Write to address below.

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SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

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SOLAR COLORS

for tinting white paper

brightness outstanding for brilliance

fastness superior fastness to light

dispersion quick, uniform distribution of dye throughout the stock furnish

non-caking resistant to dampness and high humidity

process stability normal fluctuations of temperature, acidity, alkalinity or machine speed do not affect uniformity of shade

versatility Solar Blues and Solar Violet used alone, in conjunction with one another, or shaded with Solar Pink or Solar Green, produce a full range of eye appealing whites

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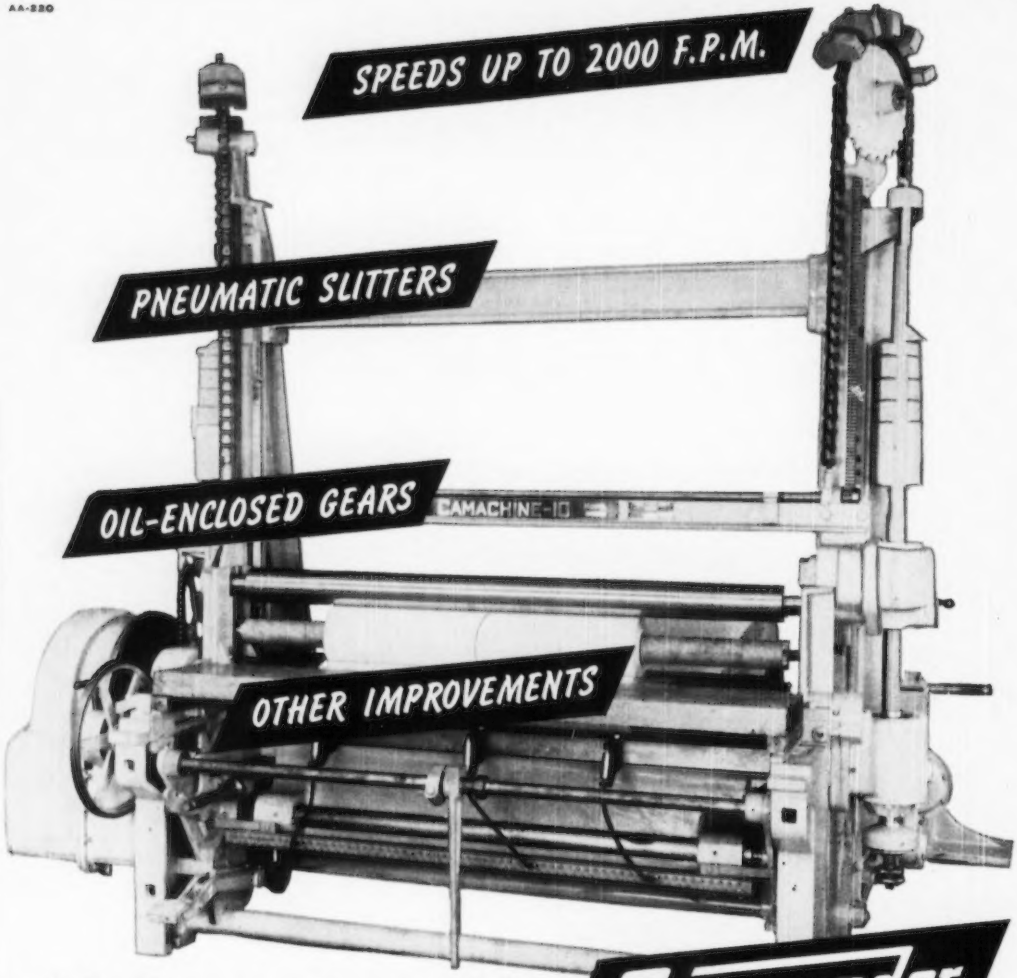

with the new Camachine Commander

A VERSATILE, NEW HIGH-SPEED SLITTER-REWINDER FOR MILLS, MANUFACTURERS AND CONVERTING PLANTS

THE NEW COMMANDER truly represents one of the greatest advances in Cameron's half century of specialization in slitter-rewinder engineering. Cameron experience and imagineering have blended in the *Commander* to provide new high speeds, new trouble-free dependability, and new features for top quality roll production at new low costs.

Makers and users of plain, waxed, gummed and coated papers or paper board will find the *Commander* a highly profitable addition to plant production facilities.

Among the outstanding features of the new *Commander* are the following:

The *Camachine Pneucut* pneumatic slitters allow pressure on the entire line of cutters to be controlled from a single point. Pneumatically controlled pressure assures cleaner cutting through longer runs, with no time lost for separate cutter adjustments. Shear cut units may be specified.

The main drive unit is now completely enclosed for safety, while the main drive shaft outboard bearing support has been made an integral unit of the main frame, assuring exact alignment.

All gearing is now completely enclosed and running in a bath of oil, for longer life and added safety.

You'll like the new style of the *Commander* too. It's a good-looking machine to have on the floor, and it pays off day after day in fast, high quality, trouble-free production. You are invited to send for complete information.

Camachines FOR FAST, TOP QUALITY ROLL PRODUCTION ... the world over

CAMERON MACHINE COMPANY • 61 POPLAR STREET • BROOKLYN 2, N. Y.

Don't guess

In selecting tubing for your mill, the difference between being "just right" and "just about right" can cost you plenty.

EVERY day as your margin of profit grows smaller under stiffer competition, it becomes more and more important that the equipment you choose for any job, will fit your requirements *right on the nose.* Otherwise your pocket book suffers.

If, for example, you select a more costly alloy tubing than the job calls for you'll be spending money unnecessarily. If, on the other hand, you buy too close to the chest and your tubing isn't equal to requirements, it won't measure up in service. And that's costly too.

That's why, whenever possible, it is just good common sense to back up your judgment with the expert advice of specialists. This we are prepared to give you.

There are three reasons why we at NATIONAL Tube believe we can really help you obtain better results from tubing applications—why it will pay you to put your tubing problems up to us.

In the first place, NATIONAL Tube has spent more than sixty years and many millions of dollars in the development of seamless pipe and tubing. Secondly, NATIONAL Tube offers not just one or two grades of steel, but produces seamless tubing in a *complete* range of steel analyses—from low carbon to the finest alloy and stainless steel . . . and in the widest range of sizes and wall thicknesses for both mechanical and pressure purposes.

Finally, and this is important, we never lose sight of the fact that every application of tubing is an individual problem in material selection, and must be treated as such. Our recommendations, therefore, are based solely on the particular and special requirements your service involves. In other words, *we help fit the tubing to the job, not the job to the tubing.*

If you want that kind of money-saving approach to your tubing problems, bring them to us.

NATIONAL TUBE COMPANY, PITTSBURGH, PA.
(Tubing Specialties Division)
COLUMBIA STEEL COMPANY, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

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NATIONAL WALLS WITHOUT WELDS *Seamless*

PIPE AND TUBING

UNITED STATES STEEL

Reduce Noise and Vibration

with Pacific-Western Dryer Gears

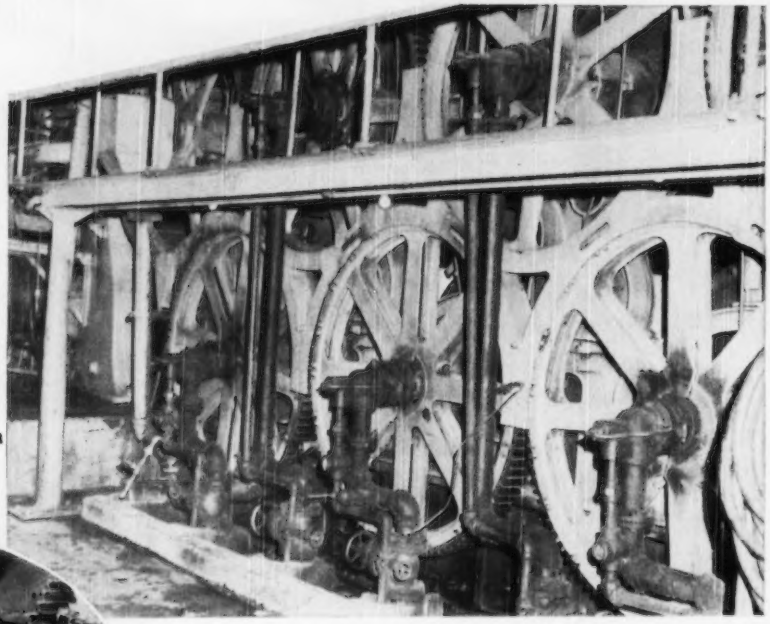
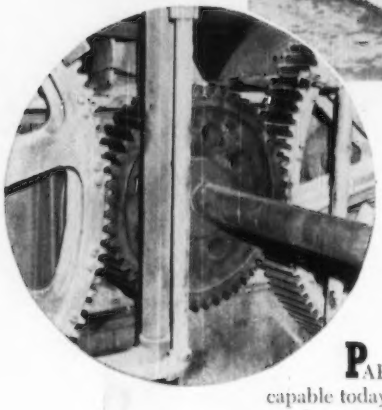


Illustration above shows bottom roll Pacific-Western special dryer gears meshing with top roll steel gears in paper drying machine.



In photograph at left Pacific-Western special dryer gears, driven by pinion, serve as initial drive units for two gear trains on paper drying machine.

PAPER drying machines are capable today of greater speed and more production than ever before. This increased output throws a severe strain on steel dryer gears and often results in excessive vibration and noise which shortens the life of the gears. Replacement of dryer gears is costly and frequently causes expensive downtime.

Pacific-Western application engineers studied the causes of gear failure and determined how to make dryer gears last longer. Special gear materials were developed for this purpose. In addition, perfect mating of geared surfaces was assured by hobbing dryer gear teeth more accurately than had been the practice.

For more than twenty-five years these carefully designed Pacific-Western dryer gears have been used both by paper machine manufacturers in original equipment and by operators for replacement gearing. To provide fast customer service, patterns are available at Pacific-Western plants for most standard machines.

Reduction of vibration and noise in your own plant can be achieved with Pacific Western dryer gears. Skilled Pacific-Western application engineers are ready to give your power transmission problem immediate attention. Their recommendations are backed by over half a century of Pacific-Western service to the paper industry.

Write, wire or phone your nearest Pacific-Western Office

Plants at SEATTLE, SAN FRANCISCO and LOS ANGELES

Sales Representatives at PORTLAND, DENVER, HOUSTON and VANCOUVER, B. C.

AGMA MEMBER

PACIFIC GEAR & TOOL WORKS ⚙ WESTERN GEAR WORKS

PACIFIC-WESTERN

4973

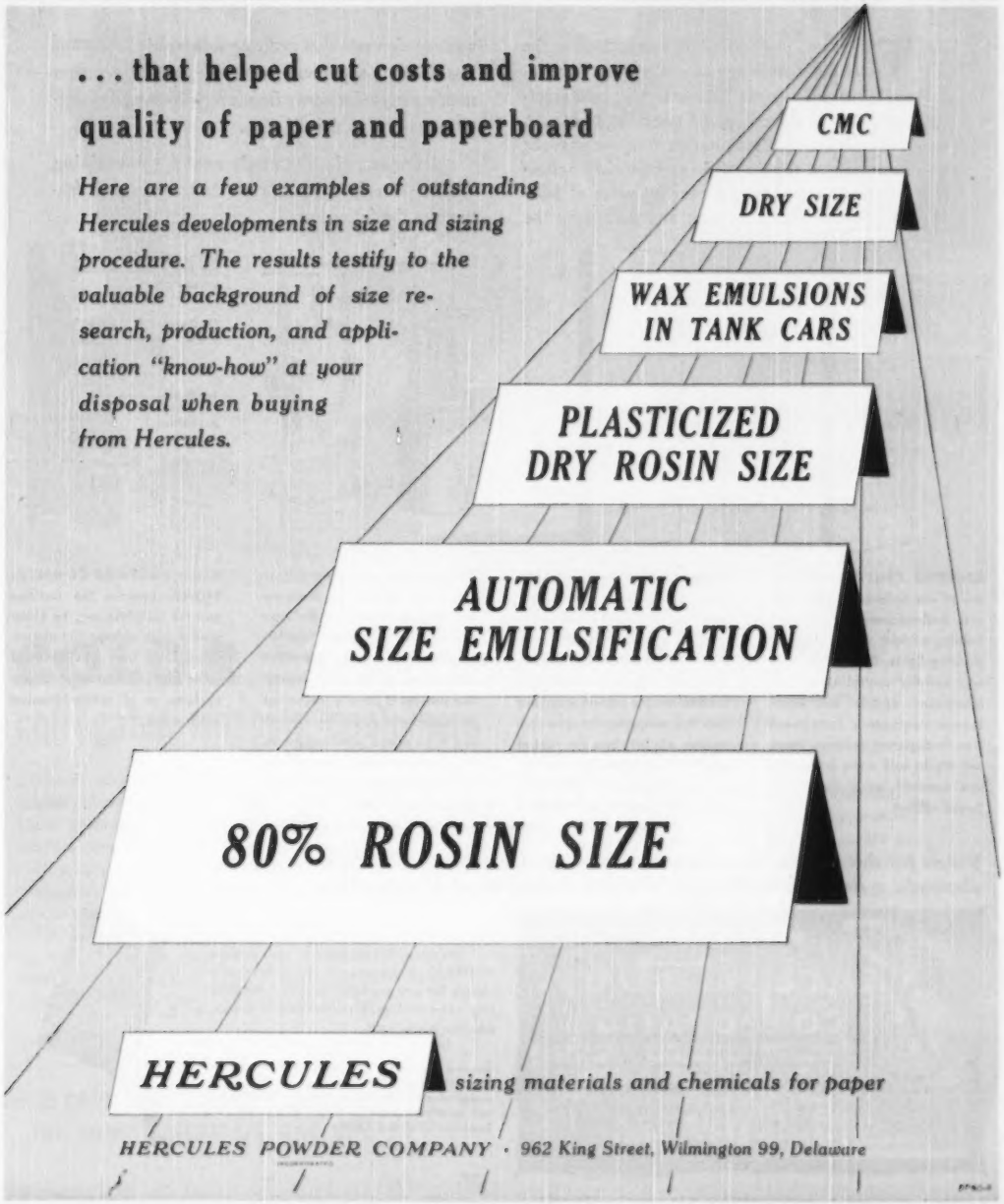
GEAR PRODUCTS

HERCULES

HEADLINERS...

...that helped cut costs and improve quality of paper and paperboard

Here are a few examples of outstanding Hercules developments in size and sizing procedure. The results testify to the valuable background of size research, production, and application "know-how" at your disposal when buying from Hercules.



HERCULES *sizing materials and chemicals for paper*

HERCULES POWDER COMPANY · 962 King Street, Wilmington 99, Delaware

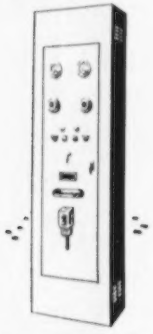
One of a Series

from Western Precipitation Corporation—pioneers of the commercial application of COTTRELLS *and now selling* COTTRELL *recovery equipment in all parts of the U.S.A. and foreign countries.*

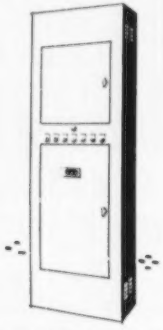
Various Methods of Energizing COTTRELLS *Make Experience a Vital Factor*

The many and varied factors affecting the operating efficiency of a COTTRELL Precipitator make experience and "know how" of the greatest importance in designing and installing COTTRELL equipment. Western Precipitation Corporation—*the organization that pioneered the commercial application of* COTTRELLS—has had over 39 years of first-hand experience in developing and perfecting the various elements that make up a complete COTTRELL installation, and these years of experience assure maximum performance from every Western Precipitation COTTRELL installation.

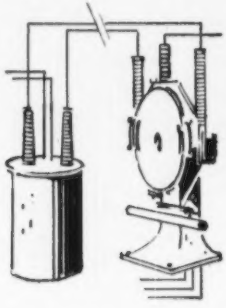
For example, the equipment for energizing Western Precipitation COTTRELLS include such features as the following...



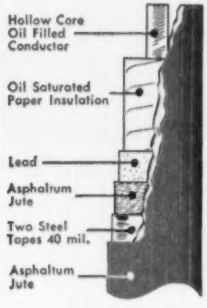
RECTIFIER SWITCHBOARDS—are of the Enclosed Cubicle type with flush-mounted meters, push buttons, selector switches, and indicating lights. The cabinet door and rectifier control circuit are interlocked. Rectifier and transformer contactors, instrument transformers, tap switches, terminal blocks and other auxiliaries are mounted inside the switchboard cabinet.



RAPPER AND POWER PANELS—are of the same external appearance as rectifier switchboards and can be installed beside rectifier switchboards to form a uniform and continuous switchboard installation. The cabinet is divided into two compartments—one containing AB breakers for control of all individual rectifier and signal circuits—the other containing all rapper controls and timers.



RECTIFIERS—for either full or half wave rectification. Mechanical rectifiers of the solid disc type are supplied with Radio Interference Correctors and Inductive Type Automatic Polarity devices. The Automatic polarity device has no commutator or brushes contacting high speed rotating parts. High voltage switch gear with interlocking control units is available.



HIGH VOLTAGE CONNECTIONS—between the rectifiers and the COTTRELL may be either special high voltage petrolatum-filled lead and steel-covered cable with pothead terminal connections, or of rod-and-bus-duct construction.

Watch for the next in this series which outlines the various* COTTRELL *electrode systems available from Western Precipitation Corporation.

WESTERN
Precipitation
CORPORATION

ENGINEERS, DESIGNERS & MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS

Main Offices: 1040 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
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PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

Western Precipitation can design COTTRELLS to operate at any desired efficiency, for any capacity, to collect virtually any solid or liquid suspended in a gas, whether hot or cold.

Do you have these helpful COTTRELL *booklets?* This literature answers many questions concerning COTTRELL equipment. Free copies will gladly be sent those interested. Ask for booklets C101 and C103.

COLOR... for eye-catching corrugated shipping containers

COLOR gets attention... makes any corrugated shipping container attractive. Immediately it is something *different*... something *distinguished* from the usual... something in demand. It takes a special place in the customer's mind.

You can profit from color by selling *more color*. Many of your customers need this low-cost way to distinguish their product to the retailer.

For information about dyes for corrugated shipping containers ...or for help on *any* coloring problem... consult our Technical Staff. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Div., Wilmington 98, Del.

FOR MAXIMUM ECONOMY
Du Pont basic dyes

FOR MAXIMUM SOLUBILITY
Du Pont acid dyes

FOR ECONOMY AND LIGHT FASTNESS
Du Pont direct dyes

FOR MAXIMUM LIGHT FASTNESS
Du Pont dispersed organic pigments:

Monastral* Fast Blue BWD or BFP Paste
Monastral* Fast Green GWD or GFP Paste
Lithosol* Pigments
Halopont* Types

*Reg. U. S. Pat. Off.

More color makes more business ...for your customers and you

Du Pont Dyestuffs
DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING... *THROUGH CHEMISTRY*

WHERE A QUICK OPENING VALVE IS NEEDED...

MURCO QUICK OPENING GATE VALVE

MINIMUM MAINTENANCE

SEVEN STYLES

- Cast Iron Body, Disc and Gland, Steel Stem. Flange drilled for spiral pipe.
- Cast Iron Body, Disc and Gland, Steel Stem. Flange drilled for iron pipe.
- Cast Iron Body, Bronze Disc, Gland and Stem. Flange drilled for spiral pipe.
- Cast Iron Body, Bronze Disc, Gland and Stem. Flange drilled for iron pipe.
- Cast Bronze Body, Disc, Gland and Stem. Flange drilled for spiral pipe.
- Cast Bronze Body, Disc, Gland and Stem. Flange drilled for iron pipe.
- Cast Stainless Steel Type No. 316 Body. Stainless Steel Disc, Gland and stem. Flanges drilled for iron pipe.

Designed so that it is narrow from face to face of flanges that permits installation where space is limited, Murco Quick Opening Gate Valve can be operated in a fraction of the time required with a screw valve. Specially applicable for handling pulp and paper stock and water under low pressure.

The valve gate can be held in any position through the use of the clamp lever nut. Gate is easily removed from valve without disconnecting valve from the pipeline. To remove gate from valve, simply loosen two bolts which hold the bonnet to the body of the valve. Because of this feature, the valve can be cleaned very easily.

Very little maintenance—no hand wheel—practically no wear on stem. Stem is easily removed from gate. A stem extension can be added to permit operation from higher elevations.

Quotations furnished for your gate valve requirements

Made in these sizes — 6 inch, 8 inch, 10 inch, 12 inch and 16 inch.

MURCO

D. J. MURRAY MANUFACTURING CO.

WAUSAU *Manufacturers Since 1883* WISCONSIN

soda bleach savings with Wyandotte liquid caustic soda

1 Handling costs are reduced because less labor is required in unloading, storing and using *liquid* caustic.

2 Soda bleach foams less in the washers than other bleaching chemicals. Pulp draining and drying are faster, more economical.

3 Soda bleach made with Wyandotte Caustic Soda insures a cleaner finished paper with a minimum reversion of brightness.

These are some of the money-saving advantages Wyandotte Liquid Caustic Soda provides in the bleaching of wood, rag, straw and waste paper pulps.

Wyandotte's skilled Technical Service staff will be glad to help you search out economies in bleaching and other operations, as they concern your particular requirements. For information, simply contact your nearest Wyandotte Representative, or write direct to:

Wyandotte Chemicals Corporation

Wyandotte, Mich. • *Offices in Principal Cities*

SODA ASH • CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE • CALCIUM CHLORIDE
CHLORINE • HYDROGEN • DRY ICE
SYNTHETIC DETERGENTS • GLYCOLS
CARBOSE (Sodium CMC) • ETHYLENE DICHLORIDE
PROPYLENE DICHLORIDE
AROMATIC SULFONIC ACID DERIVATIVES
OTHER ORGANIC AND INORGANIC CHEMICALS

Wyandotte
REG. U. S. PAT. OFF.

TENAX FELTS

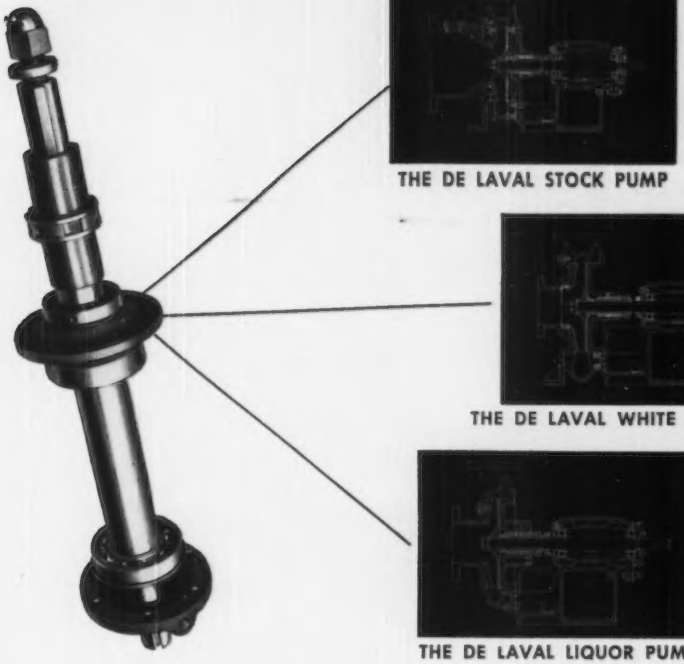
from the finest of wools give you long lasting, efficient service

SORTING AND GRADING THE WOOL FOR A TENAX FELT

From all parts of the world, the finest wools are selected and sorted. Then for each Tenax Felt, the correct proportions of the right wools are mixed together to give you the most efficient felt possible, for the kind of paper your machine produces.

The Lockport representative in your territory is fully qualified to advise on all technical questions relating to felts. He is at your service as is our plant and all its people. We invite your inquiries.

LOCKPORT FELT COMPANY • NEWFANE, NEW YORK



THE DE LAVAL STOCK PUMP

THE DE LAVAL WHITE WATER PUMP

THE DE LAVAL LIQUOR PUMP

One Shaft Assembly Fits All 3 Pumps,

Standardized parts will keep your repair parts stock to a minimum.

Shafts, shaft sleeves, bearing cartridges and bearing pedestals are *standardized* in De Laval pulp and paper mill pumps so that they can be *interchanged* from one pump to another. For instance, a single set of bearings fits three sizes of stock pumps, three sizes of white water pumps and two sizes of liquor pumps.

The use of interchangeable parts is but one of many exceptional features of the new De Laval pumps for pulp and paper mill service.

- Extra large suction openings and impeller passages permit handling of stock densities as high as 7½% sulphite.
- Take-downs are quick and easy. The rotor can be removed without disturbing any of the suction and discharge piping.
- Rotors on stock and liquor pumps are adjustable for wear. This extends periods between liner replacement.

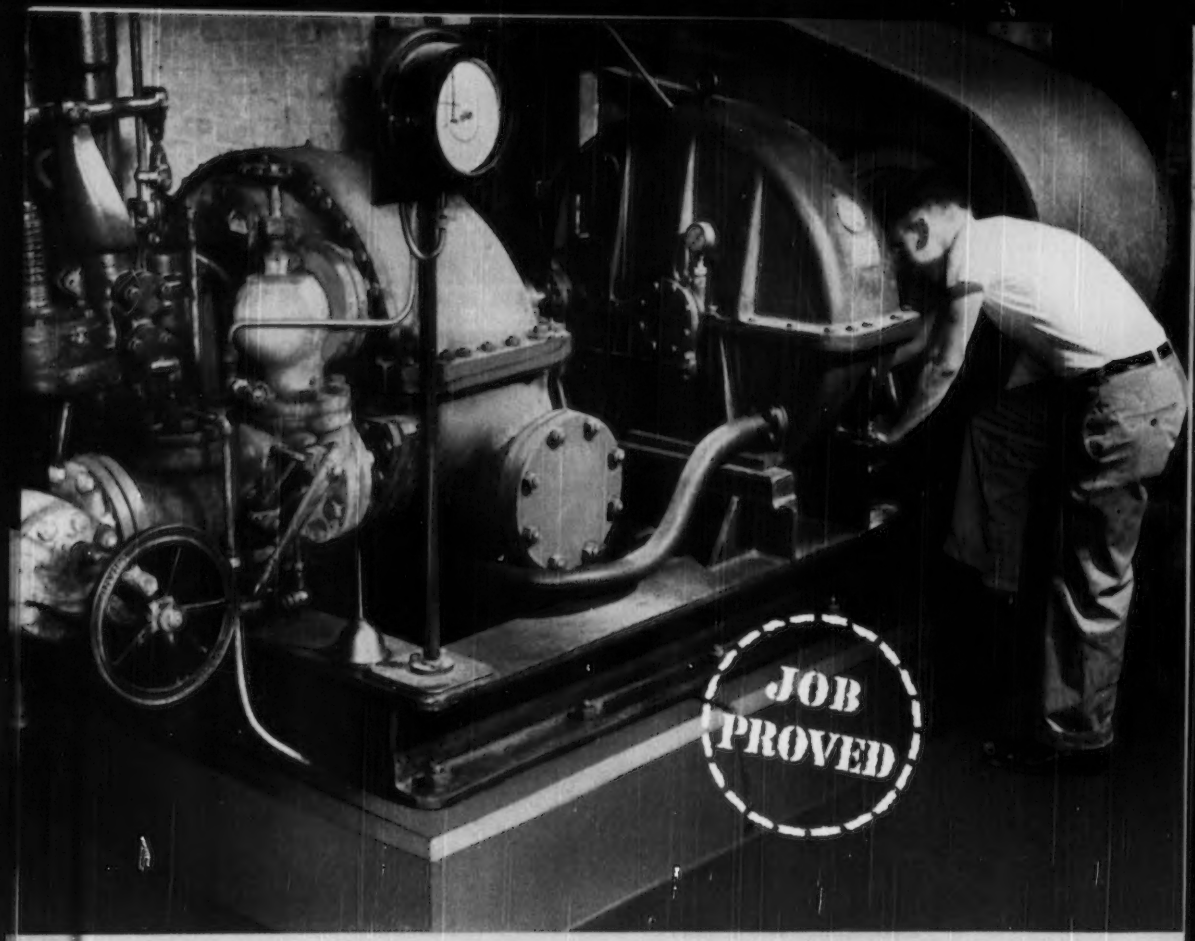
Send for Catalog 11-1-PT to learn about these and other new De Laval features.

DE LAVAL

DE LAVAL STEAM TURBINE CO., TRENTON 2, N. J.

TURBINES • HELICAL GEARS • CENTRIFUGAL BLOWERS AND COMPRESSORS
CENTRIFUGAL PUMPS • WORM GEAR SPEED REDUCERS • IMO OIL PUMPS

PP-1



SUNVIS 900 OILS REDUCE COSTS 25%

Papermaker Gets Maximum Equipment Protection, Extra Long Service, from Superior Turbine Lubricants

In a large paper mill, eight steam turbines drive paper machines and pumps, and generate power for ventilating equipment. Ten years ago the mill began lubricating these turbines with a "Job Proved" Sun oil. They gave unfailing service with remarkably low oil and maintenance costs.

Four years ago, when Sunvis "900" Oils first became available, the Sun representative serving the mill saw an opportunity to effect even greater economy. He suggested that the medium-priced Sun oils in use be replaced by the more costly Sunvis "900" Oils. He knew that these modern, fortified lubricants—*more costly* on a per-gallon basis—would prove *less costly* through the years because of their remarkably long life. His suggestion was followed.

The Sunvis "900" Oils have fully justified this confidence, saving the mill 25% or more on lubrication costs. Furthermore, the papermaker knows his equipment—running or idle—is fully protected from rust and corrosion.

Sunvis "900" Oils are *good for the life of your production equipment.* Coupled with the know-how of the Sun representative who calls on you, they are good for your pocketbook, too. For more information, send for a copy of the illustrated booklet "Sunvis '900' Oils". Write Department PT. 2.

SUN OIL COMPANY • *Philadelphia 3, Pa.*
In Canada: Sun Oil Company, Ltd.
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SUN PETROLEUM PRODUCTS
"JOB PROVED" IN EVERY INDUSTRY

SUNOCO

Paper TRADE JOURNAL

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, February 22, 1950

Scandinavian Newsprint Supply Tight

The entire 1950 production of Scandinavian newsprint mills has been sold out, it is learned from industry representatives here. Increased demands from Britain and other soft-currency countries which are due to dollar shortages have so completely drawn on the capacity production that the situation is extremely tight. None is being offered for sale in the U.S. market, it is stated.

Investigation of a report that Swedish newsprint had been offered for sale here at less than Canadian contract prices brought to light the facts on both Swedish and Finnish supply.

Finnish Production at Capacity

World demands are taking the capacity output of the Finnish mills, and none is available for sale this year. Tonnages being delivered on long-term U. S. contracts are at the Canadian contract level, which is much below the world-market price.

Careful packing, handling and shipping of Finnish newsprint keeps damage losses at a minimum. There have been insurance company offers of a few tons of "rejects" at about $85.

No Swedish "Rejects"

No "rejects" from Swedish shipments have been on the market recently, it is learned. Neither is any offer of contract tonnage being made in this market.

Operating at capacity, Swedish mills this year should produce about 130,000 metric tons, 50 percent of which will go for home consumption. It is estimated that a maximum of 20,000 metric tons will reach U. S. contract customers this year, the balance of the output going to the United Kingdom, Australia, New Zealand, South America, South Africa, Europe, etc. Again it is noted that the Canadian contract price — the level at which U. S. contract customers are buying — is less than that obtainable in other world markets.

Midyear Easement Hoped For

Some hope is held out that a shift in British buying policies — perhaps as a result of this week's elections — may reopen Canadian contracts and bring some easement to the tight Scandinavian supply situation, it is stated. Otherwise the world markets which are drawing increasingly on the limited Scandinavian supply may not be satisfied.

Canadian Outlook Hopeful

OTTAWA—Though all signs indicated at the year's beginning that the Canadian newsprint industry would suffer adverse effects in the coming months by the sharp contraction of overseas markets, it is now learned that such customers are again considering the possibility of arranging deals to buy some Canadian newsprint later in the year.

Apparently the switch from Canadian to Scandinavian and European sources may not work out as well as contemplated. It is learned that these sources of supply may be unable to meet the sudden, full demands of the sterling area. Then again, it is feared by some of these former overseas Canadian newsprint customers that this big demand by sterling area buyers may affect prices.

In other words, if some kind of deals could be arranged to get around the dollar shortage, some of the former Canadian customers would be back in 1950. In any event, something appears to be brewing. Evidently efforts to replace Canadian newsprint entirely by stepping up domestic production and getting such full needs from foreign sources are not bringing the desired results.

At the same time, the Canadian newsprint industry is getting set to meet the changing conditions involved in the contracting overseas markets: so that the rated annual capacity may be brought in line with needs. Current newsprint demands from Canada and the U. S. are, however, expected to keep the mills operating at a high level throughout this year.

January Newsprint Statistics

Operating at 97.2 percent of capacity, Canadian newsprint mills produced 417,011 tons in January, .9 percent less than in January 1949. U. S. production amounted to 74,275 tons, 1.8 percent less than the preceding year. U. S. imports from Europe, estimated at 15,500 tons, dropped 46.8 percent from January, 1949. Total U. S. supply for the month at 450,567 tons is compared against 448,720 tons in January of last year.

Stocks. Stocks of newsprint paper at the end of January were 135,188 tons at Canadian mills and 9,009 tons at U. S. mills, a combined total of 144,197 tons, which compares with 129,433 tons in January a year ago, and with 132,004 tons at the close of December 1949. Stocks on hand and in transit were 40 days' supply for the average of all daily newspapers reporting to the ANPA, an increase of three days' supply over the end of January 1949, at projected rate of consumption, and a gain of one day over end of December stocks.

Consumption. Daily newspapers reporting to the ANPA consumed 345,093 tons in January 1950, compared with 332,671 tons in January 1949, an increase of 3.7 percent. Total estimated U. S. newsprint consumption for the month, which includes all kinds of uses of newsprint, was estimated at 448,172 tons.

Writing Paper Prices

Not all *rag content* mills have as yet indicated whether their prices will follow the trend of the market upwards. The shape of things at the distributor level is clearing, however, and a few of the new prices for *rag contents* are posted on *Prices* page.

Heard here and there about the writing paper market are hints that sulfites also are about to take a rise. While, of course, it be reasoned that sulfite manufacturers have been and will be subject to cost increases — in raw materials, fuels, labor, freight, etc. It has not been possible to track down any decision in the making anent a sulfite price rise; hence, it must be concluded that the rumors have no basis in fact.

Canadian Coateds Rise

OTTAWA — Coated papers have been increased in price by approximately 4 to 7 percent, the manufacturers' price varying according with grade and quality. Some grades remained unchanged. Reasons given for the latest increase are: higher rail charges and the 10 percent premium which manufacturers have to pay for U. S. raw materials, including coating clays, coal, chemicals, etc.

Among the producers of such coated papers in Canada are Provincial Paper Co., Alliance Paper Mills, and Canada Glazed Papers Co., with output estimated at approximately 1,200 tons a month.

Production Indexes

Ratio of production of unbleached kraft paper to potential mill capacity for that product was 94.0 percent for the week ended February 11, compared with 96.2 percent for the preceding week, and with 93.7 percent for the corresponding week of 1949.

Comparative ratios of U.S. paper and paperboard production to mill capacity, as reported by AP&PA, are:

	Feb. 11 1950	Feb. 4 1950	Feb. 14 1949	Feb. 14 1948	Feb. 15 1947
Paper	102.1	‡101.1	94.2	100.4	104.5
Paperboard	93.0	91.0	86.0	101.0	102.0

‡ Revised.

Paperboard Production (Tons)*

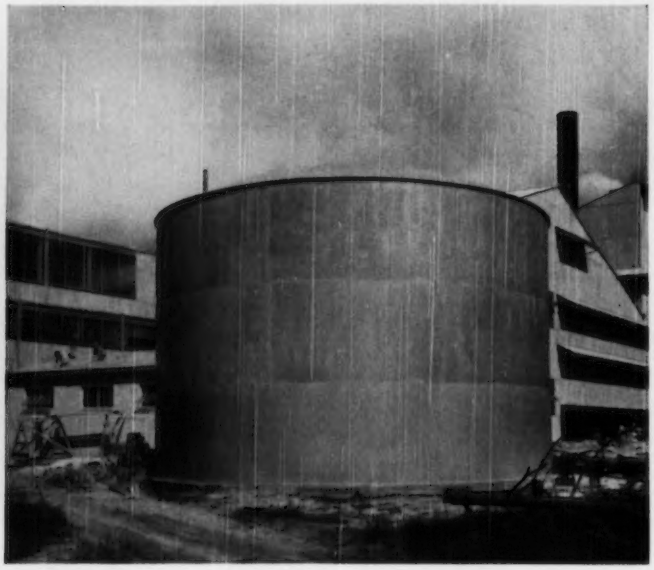
	Feb. 11 1950	Feb. 4 1950	Feb. 12 1949
Production	209,827	202,942	177,390
New Orders	201,511	248,603	155,095
Unfilled Orders	365,243	383,173	319,065

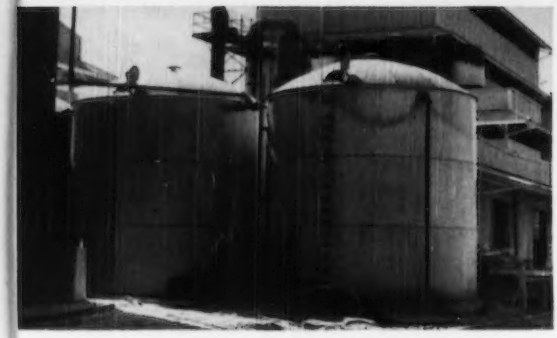
* Source: NPA.

General Business Indexes

Index of general business activity for the week ended February 11 eased to 149.3 from 150.4 in the preceding week, compared with 150.7 in the corresponding week of 1949. Index of paperboard production inclined to 207.1 from 200.0 in the preceding week, compared with 175.1 in the corresponding week of 1949.

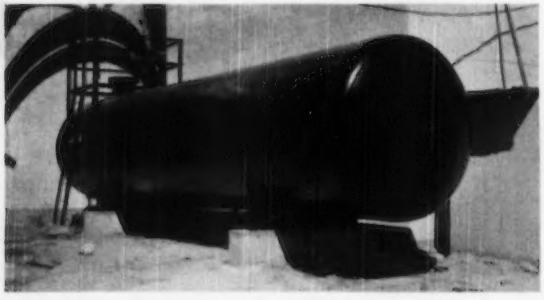
Have you the right PERSPECTIVE for 1950?





Above: Two 12-ft. diam. by 15-ft. high caustic storage tanks.

Below: 7,500-gal. sulfur dioxide storage tank. Both these installations are located at the St. Regis Paper Company's Cantonment, Florida plant.



Meet the challenge of a competitive market with MODERN EQUIPMENT

A recent survey by the National Industrial Conference Board shows that many businessmen will **spend money** to **cut costs** in 1950. The companies are engaged in long-range, over-all programs which, though presently calling for higher expenditures, anticipate greater savings through improved techniques, facilities, expansion, and **new equipment.**

Why not adopt this dynamic program in your plant? Take a critical look at your storage tanks and process equipment to see if it is obsolete. When you decide to modernize for efficiency, consider the services we offer the paper industry. Our shops do welding, x-raying, and stress-relieving to code requirements. Corrosion-resistant linings can be furnished if desired. Our five plants are strategically located to give you prompt service. Write the nearest office for quotations on steel plate structures like the following:

SULPHATE DIGESTERS
SULPHITE DIGESTERS
DIFFUSERS
ACCUMULATORS
MARX SAVEALLS
ACID TANKS
PULP TANKS
STORAGE TANKS
ELEVATED WATER TANKS
SETTLING TANKS

Top: 36-ft. diam. by 22-ft. suction tank at the St. Regis Paper Company's plant at Cantonment, Fla.

CHICAGO BRIDGE & IRON COMPANY

Atlanta, 3 ..... 2142 Healey Building
Birmingham, 1 ..... 1559 North 50th Street
Boston, 10 ..... 1064-201 Devonshire Street
Chicago, 4 ..... 2130 McCormick Building
Cleveland, 15 ..... 2255 Guildhall Building
Detroit, 26 ..... 1565 Lafayette Building
Houston, 2 ..... 2163 National Standard Building
Havana ..... 402 Abreu Building
Los Angeles, 14 ..... 1561 General Petroleum Building
New York 6 ..... 3333-165 Broadway Building
Philadelphia, 3 ..... 1665-1700 Walnut Street Building
Salt Lake City, 4 ..... 567 West 17th South Street
San Francisco, 11 ..... 1277-22 Battery Street Building
Seattle, 1 ..... 1368 Henry Building
Tulsa 3 ..... 1666 Hount Building

Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY, and GREENVILLE
In Canada: HORTON STEEL WORKS, Limited, FORT ERIE, ONT.

PULP

Perkins-Goodwin Co.

Established 1846

30 ROCKEFELLER PLAZA, NEW YORK

CHICAGO, ILLINOIS · LUFKIN, TEXAS · STOCKHOLM, SWEDEN

PAPER

Stream-Flow Vat System

—a story of product improvement

Flow Spreader for Cylinder Machines

It was just a few years ago that a box with a cylinder mold was considered a vat . . . and what this vat couldn't accomplish was supposedly beyond the realm of Cylinder Machines.

Then came the Goldsmith Stream-Flow Vat System—an individual forming machine designed and built by Puseyjones with the same thought and care as Puseyjones Fourdriniers. Step by step the Stream-Flow Vat System has been improved. Here are some of the outstanding features—standard, but optional—of the latest Stream-Flow design:

(1) Vacuum Cylinder Mold . . . One of the most important improvements in the history of Cylinder Machines. Formation is greatly improved due to use of vacuum and elimination of spoke disturbance. For single cylinder or multi-cylinder machines.

(2) Stream Flow Vat . . . Progressive improvements and simplifications have been made, including use of stainless steel instead of bronze for flexible, adjustable vat circle; independent front, bottom and back circle adjustments reading directly on dials; an ingenious toggle-operated bleeding and dumping arrangement.

(3) Flow Spreader . . . New compact design. Hydraulic nozzle "squeezes" the flow by decreasing area and increasing velocity during spreading.

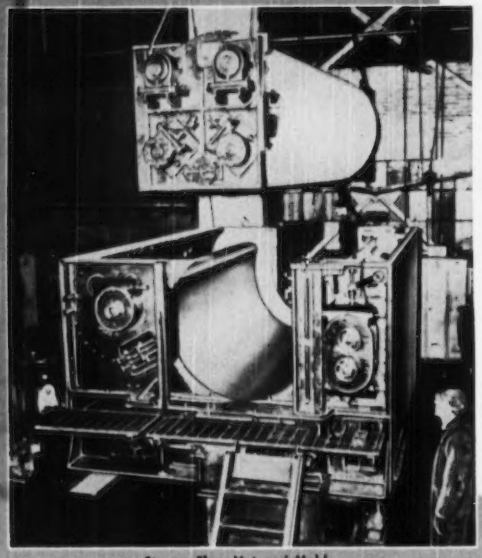
(4) Up-Flow Head Box . . . New design assures steady feeding of the vat and permits air to escape.

For better formation, higher speeds, a wider range of stock freenesses proven in operation on a wide variety of grades—from thin cylinder papers to roofing felt—investigate the Stream-Flow Vat System. Talk to Puseyjones engineers about doing the job in several steps—the proof of performance is in the operation. Write us today.

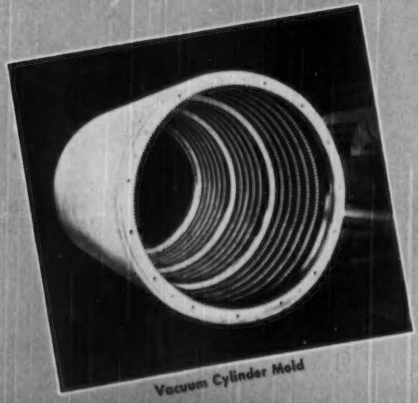
THE PUSEY AND JONES CORPORATION

Established 1848. Builders of Paper-Making Machinery
Wilmington 99, Delaware, U.S.A.

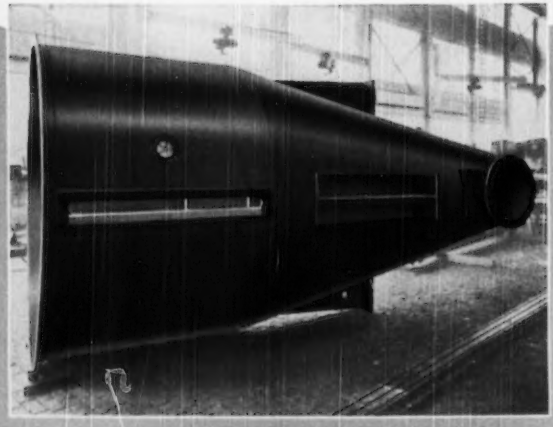
THE SIGN OF TRADE MARK SUPERIOR QUALITY



Stream Flow Vat and Mold



Vacuum Cylinder Mold



Up-Flow Head Box

Paper TRADE JOURNAL

News of the Week

Olmsted Named President Of APPA

George Olmsted, Jr., president of S. D. Warren Co., Boston, Mass., was elected president of the American Paper and Pulp Association at its 73rd annual meeting at the Waldorf-Astoria Hotel, New York City, on February 23. Mr. Olmsted, who was born in Evanston, Ill., received his A.B. degree in 1925 from Williams College. Immediately after graduation he entered the employ of the S. D. Warren Co. After two years' experience in the company's Maine mill he went to the Boston office becoming sales manager in 1933, vice-president and director in 1934, and president in 1944. In 1946 and 1947, Mr. Olmsted was chairman of the Book Paper Manufacturers Assn. The following year he was made a member of the Board of Governors of the American Paper and Pulp Assn. and in 1949 was elected a vice-president and member of that association's executive committee.

Other officers of the American Paper and Pulp Assn. for 1950 are as follows: First vice-president, Sydney Ferguson, Chairman of the Board of Mead Corp.; vice-presidents: M. D. Bardeen, president, Lee Paper Co.; Alexander Calder, president, Union Bag and Paper Corp.; Hugh J. Chisholm, president, Oxford Paper Co.; R. K. Ferguson, president and chairman of board, St. Regis Paper Co.; R. L. Fitts, president, Southern Advance Bag and Paper Co.; J. H. Hinman, president, International Paper Co.; D. S. Leslie, first vice-president, Hammermill Paper Co.; David L. Luke, Jr., president, West Virginia Pulp and Paper Co.; R. A. McDonald, executive vice-president, Crown Zellerbach Corp.; J. L. Madden, president, Hollingsworth & Whitney Co.; Vertrees Young, executive vice-president, Gaylord Container Corp.; George E. Williamson, president, Strathmore Paper Co. The Executive Committee is comprised of the above. The past presidents act as ex-officio members. E. W. Tinker, 122 E. 42nd street, New York 17, N. Y., is executive secretary-treasurer of the association.

Coated & Processed Paper Assn.

Spurgeon F. Bardt, sales manager, Wyomissing Glazed Paper Co., West Reading, Pa., was elected president of the Coated and Processed Paper Assn. at that group's annual meeting in Hotel Commodore on February 21. He succeeds William B. Snow, Middlesex Products Corp., who has been president for the past three years.

GEORGE OLMSTEAD
President APPA

Vice-presidents elected are: For the Manufacturing Division, Robert C. Adams, The Marvellum Co., Holyoke, and for the Merchandising Division, Bernard B. Novasel, Lachman-Novasel Paper Corp., New York. Named to the executive committee for the term expiring February 1952 was F. Allen Barr, Holyoke Card & Paper Co., Springfield, who will be a manufacturing member of the committee and Charles H. Hoffman, Hughes & Hoffman, New York, who will serve as a merchandising member of the committee.

Groundwood Paper Mfrs. Assn.

At its annual meeting, held February 20 at the Waldorf, the Groundwood Paper Manufacturers Assn. elected the following: president, E. K. Doonan, Gould Paper Co., Glens Falls, N. Y.; Eastern vice-president, Samuel Pruyn, Finch, Pruyn & Co., Glens Falls, N. Y.; Western vice-president, B. W. McEachron, Northwest Paper Co., Cloquet, Minn.; Board of Governors — J. G. Conley, Fraser Industries; E. G. Murray, St. Regis Paper Co.; and P. A. Mahony, International Paper Co.

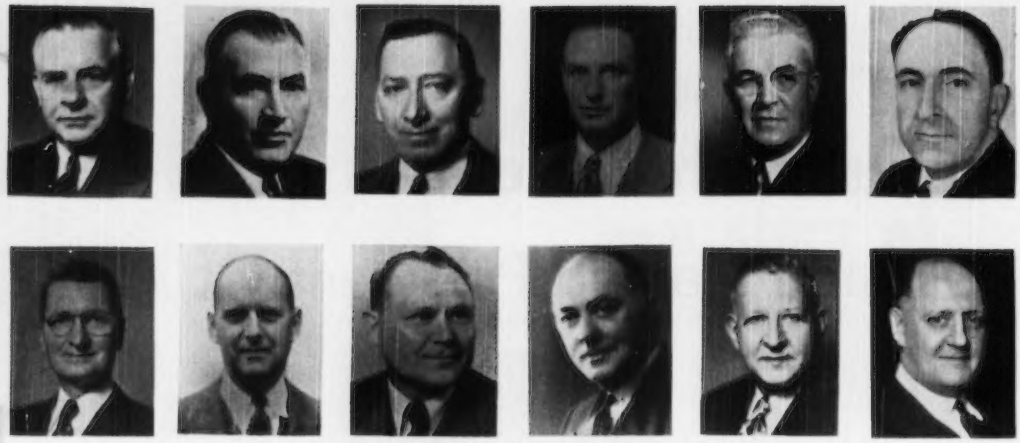
SAPI Elects Keck President

Daniel H. Keck, Kimberly-Clark Corp., was elected president of the Salesmen's Association of the Paper Industry to succeed Alan B. Helffrich, also of Kimberly. Mr. Helffrich presided at the annual meeting which was held on February 20 at the Waldorf.

Mr. Keck was formerly Western vice-president. He was succeeded to that post by William J. Tilden, Mead Sales Corp. Louis A. Ellis was elected assistant Western vice-president. George Watson, Wheelwright Papers, Inc., was renamed Eastern vice-president, and L. Worthington Dodd, Champion Paper & Fibre Co., assistant Eastern vice-president. E. G. Amos, New York, was re-elected secretary-treasurer. Report for the nominating committee was made by Harold Knott, Wausau Paper Mills.

(Continued on page 110)

COLA G. PARKER
Retiring Pres. APPA



Officers and Board of Governors of the Sulphite Paper Manufacturers Assn., Inc.

Top Row, left to right—general chairman, James G. Conley, sales manager Fraser Paper, Ltd.; vice-chairman, bleached group, Leo E. Croy, executive vice-president Marathon Corp.; vice-chairman, unbleached group, George Stuhr, Southern Kraft Div., International Paper Co.; vice-chairman, manila group, Donald F. McCall, vice-president Racquette River Paper Co.; vice-chairman, machine glazed wrapping group, Neil E. Nash, vice-president Nekoosa-Edwards Paper Co.; vice-chairman, bleached converting group, Gilford F. Henderson, manager paper sales div., Brown Co. The New Board of Governors will consist of the above named officers together with the following pictured on the bottom row, left to right—Wayne A. Brown, manager Eastern Div., Crown Zellerbach Corp.; Allan G. Hendry, Consolidated Water Power & Paper Co.; B. W. McEachern, vice-president and manager of sales, Northwest Paper Co.; A. P. Mitchell, vice-president, secretary and general sales manager, Riegel Paper Corp.; and Alfred Southon, executive vice-president, Kalamazoo Vegetable Parchment Co. Thomas J. Burke is secretary-treasurer of the association.

Sulphite Paper Mfr's.

The annual meeting of the Sulphite Paper Manufacturers Assn., Inc., was held in the Jansen Suite of the Waldorf-Astoria on Monday, February 20. The speaker, whose address appears elsewhere in this issue, was Murray Shields, vice-president and economist of the Bank of Manhattan Co. Mr. Tinker, executive secretary of the American Paper and Pulp Assn., and J. L. Ritchie, executive director of the U. S. Pulp Producers Assn., also addressed the meeting.

In his report for 1949, Tom Burke, secretary-treasurer of the Sulphite Assn., referred to the fact that he had not missed "Paper Week" for thirty years, having attended his first one at the old Waldorf in February 1921 as secretary-treasurer of the Cost Assn. of the Paper Industry. He reported that, comparatively speaking, members of the Sulphite Assn. had done reasonably well in 1949 inasmuch as orders received during the year were only 6.9 percent below 1948 which was the best year the association had had during the past five years, whereas in most other divisions of the industry the decrease had been considerably higher, generally in the neighborhood of 15 percent according to reports he had received. As there had been a big upsurge in orders at the end of the year which had continued into 1950, outstanding orders two weeks before (latest figures available) were 10 percent greater than they had been at the beginning of February 1949. He added that he looked for a good year in 1950.

Paper Napkin Ass'n.

The ninth annual meeting of the Paper Napkin Assn., Inc., was held Tuesday, February 21, at 9:30 A.M. in the Hotel Barclay, New York, N. Y. The chairman, W. F. Erisman, of the Erving Paper Mills, introduced the new secretary-treasurer, Arlo Wilson, who will serve the association on a full-time basis. Mr. Wilson's background of trade association and business experience qualify him, the Executive Committee feels, to do a progressive and satisfactory job for the industry and to lead in the expansion of association activities.

The business meeting, which included annual reports, election of officers and special committee reports, was followed by a luncheon in the Hamilton Room of The Barclay.

Ward Paper Co. Changes

MERRILL, WIS.—Two major changes in the executive management of Wisconsin Valley paper mills took place last week.

D. B. Smith, president of the Ward Paper Co., Merrill, and the Transo Envelope Co., of Chicago, has resigned to become president and general manager of Wausau Paper Mills Co., Brokaw. D. C. Everest, who reorganized the Brokaw mill in August 1948 and has been its president since then, is now chairman of the Board.

Joseph Regenstein, chairman of the Board, Ward Paper Co., has announced the appointment of Dr. R. A. Diehm as executive vice-president and general manager of the local Ward plant. Carl Luth was named as secretary and assistant manager. The appointments of Dr. Diehm and Mr. Luth became effective February 1. Mr. Smith takes over his new duties at Brokaw on March 1.

Dr. Diehm has been technical director of the Ward Co. for the past three years. He came to Merrill from the Cuneo Press of Chicago where he was director of research, and was formerly with the Container Corp. of America, and Rohm and Haas Co. of Philadelphia.

Mr. Luth has been an executive of Ward for the past thirteen years, prior to which he spent nine years with the Nekoosa-Edwards Co. at Port Edwards.

In accepting the general managership of the Ward Paper Co., Dr. Diehm said that the policies of the firm in regard to production, sales and staff will continue on the present basis.

Extend Free Entry On Printing Paper

CARACAS — The duty-free entry of paper for use in the printing of newspapers, magazines, and books of a cultural nature, classified under 239-B of the Venezuelan Customs Tariff, has been extended to June 20, 1950.

Amoskeag Retakes Plant

MANCHESTER, N. H. — According to Charles A. Burk, president, Amoskeag Paper Co., Inc., has taken possession of its plant leased to Chemwood Corp. and will resume operation of the mill.

Paper Industry Returns to Record Production Following Inventory Liquidation

MORRIS C. DOBROW

Executive Secretary—Writing Paper Manufacturers Association, New York

Production in the fourth quarter of 1949 was at an annual rate of 22,800,000 tons, a new high record for all time.

Total 1949 production was approximately 20,300,000 tons, 7 percent below the 1948 production of 21,921,757 tons. The supply-demand situation was not as tight in any part of 1949 as in recent years because capacity had been increased to over 24,000,000 tons. Because of inventory liquidation, actual consumption was greater than production.

General Business

A year ago at this time, general business volume still was high but, even then, it was evident that at least a part of 1949 would be a period of correction which might call for some readjustment in the amount of goods produced and in the general price level.

The index of industrial production, as measured by the Federal Reserve Board, was 176 for 1949 (1935-1939—100) — a decline of 8 percent from 1948. This well-known index dropped from a high of 195 in November 1948 to a low of 161 last July, a fall of 17 percent. This decline was large enough to classify mid-year business as one of recession, and caused many people to feel that perhaps a depression was on the way.

Summary

The year 1949 witnessed the completion of the postwar readjustment in the paper and pulp industry.

At the beginning of the year, it was clear that most converters, distributors and consumers of paper and paperboard were overbought and that some readjustment was due. Inventory liquidation commenced and production declines followed and continued through July. In retrospect, it is evident that manufacturers acted with a high degree of industrial statesmanship. Most of the industry showed restraint during the period of inflation and was realistically flexible, without hysteria, during the short period of deflation.

The outstanding event in 1949 was the dramatic recovery of production from the July "low". In that month, production was 1,348,000 tons, or at an annual rate of about 16,000,000 tons. In August, production was 1,750,000 tons, an annual rate of 21,000,000.

The business pattern in 1949 was characterized largely by a rapid liquidation of inventories from March through August. The liquidation, undoubtedly, went too far because of a fear by businessmen that the high level of prices, due to wartime controls and postwar inflation, would not continue. Overlooked perhaps were the large liquid savings in the hands of the consuming public, the government's vast commitments for expenditures, both at home and abroad and, above all, the huge money supply (demand deposits plus currency in circulation). These factors contributed to the maintenance of consumer purchasing power at high levels which, in turn, was sufficient to absorb a large volume of goods. Consequently buying at the consumer level exceeded current production, and inventories were reduced to a point where rebuilding was necessary in order to meet continued consumer demands. Production rose in the second half of the year, retarded, to some extent, by the great steel and coal strikes.

Paper Consumption

It is apparent from the data available and the behavior of the market that the actual consumption of domestically produced paper and paperboard in 1949 was somewhat under 21 million tons, although it is impossible to determine the exact tonnage. Actual production in 1949 was 20,300,000 tons, and liquidation of inventories during the year was probably anywhere from 400,000 to 600,000 tons.

No definite figures of paper consumption are available except for newsprint, the consumption of which largely is met by Canadian production and is not a part of this article. However, the production curves suggest that consumption of paper in 1949 in the U. S. was down perhaps 1 to 2 percent, compared with 1948.

In 1947, paper supplies were relatively short throughout the year, and we may assume that practically all of the 1947 production was consumed. We may further assume that 1948 consumption, because of the record volume of general business, was at least as high as in 1947. However, it was becoming clear in the last quarter of 1948, and was evident in the first part of 1949, that the 800,000 tons of increased production in 1948 (as compared with 1947) probably went into inventories to fill up the pipe lines and replenish the shelves laid bare by wartime and postwar shortages. This rebuilding of inventories went beyond necessity and put converters, distributers and consumers into an overbought position.

The sharp increase in demand, following the vacation shutdowns in July of 1949 indicated that at least the excess inventories had been consumed and that the inventory-liquidation itself, perhaps had gone too far in many places. The sharp recovery which the industry generally experienced in the last part of 1949 substantiated this theory.

Increases in Productive Capacity

The capacity of the U. S. paper industry was about 24,236,000 tons at the end of 1949. In 1939, capacity was 16,557,000 tons. At the end of the war this capacity had been increased to 20,282,000 tons and, during the five postwar years beginning with

TABLE I
U. S. Capacity and Production by Grades

Grade	1939 Capacity	1939 Actual Production	1939 %	1947 Capacity	1947 Actual Production	1947 %	1948 Capacity	1948 Actual Production	1948 %	Preliminary 1949 Capacity	Preliminary 1949 Actual Production	Preliminary 1949 %
Writing paper	747,100	594,594	80	970,620	918,348	95	1,008,000	908,890	90	1,030,000	818,000	79
Other fine papers	165,570	128,508	78	270,000	252,243	94	273,000	232,088	85	273,000	213,900	78
Book paper	1,921,260	1,534,591	80	2,289,660	2,207,923*	96	2,482,000	2,338,671*	94	2,522,000	2,148,000	85
Groundwood printing and specialty papers	631,470	540,342	86	850,020	821,318	97	875,000	808,110	92	915,000	788,000	86
Newsprint	988,280	954,259	97	823,360	833,038	101	893,000	875,760	98	1,025,000	910,000	89
Tissue paper	772,480	648,429	84	1,183,890	1,088,656	92	1,322,000	1,187,739	90	1,334,000	1,149,000	86
Wrapping paper and special industrial	2,609,580	2,238,993	86	3,362,880	3,192,949	95	3,559,000	3,340,746	94	3,802,000	3,098,000	81
Building paper and insulation	938,370	659,090	70	1,329,280	1,289,109	97	1,389,000	1,348,321	97	1,400,000	1,096,000	78
All other papers	252,340	185,342	73	110,050	100,486	91	110,000	107,301	98	110,000	80,060	73
Total paper	9,026,450	7,484,148	83	11,189,760	10,704,071	96	11,911,000	11,147,626	94	12,411,000	10,300,000	83
Paperboard and building board	7,530,960	6,025,494	80	10,835,716	10,408,982	96	11,478,000	10,773,407	94	11,825,000	9,997,000	85
Total paper and paperboard	16,557,410	13,509,642	82	22,025,476	21,113,503	96	23,389,000	21,921,033	94	24,236,000	20,297,000	84

* Includes groundwood grades of paper machine coated.

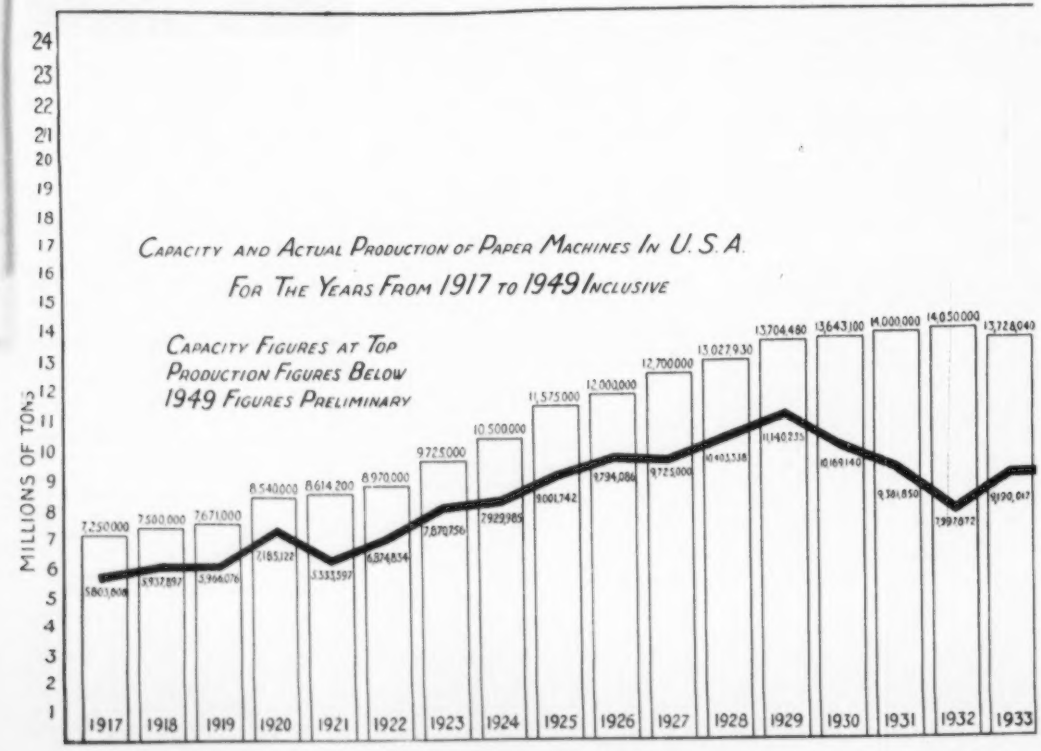
1946 to the end of this year, the capacity will have been increased by about 4,200,000 tons.

Only three new paper machines, having an annual capacity of less than 90,000 tons, are scheduled thus far for installation in 1950. Improvements and enlargements on existing machines are expected to add further to this year's capacity.

These productive capacities, plus normal imports, chiefly newsprint, are in excess of domestic paper requirements. Average operating ratios last year were no longer close to the 100 percent of theoretical capacity, generally experienced in the postwar period. In 1949, the industry averaged 84 percent of capacity but at the year-end, the operating ratio had climbed above 90 percent.

The question then, is how far have productive facilities run ahead of consumption needs? The building of new machines and the enlargements of production on many old machines since the end of the war have, in the aggregate, gone beyond current requirements of the country. The paper industry has done this in every previous boom but, in painful time, the growth of consumption justified the additional capacity. In this instance, the waiting time for demand to catch up with present capacity also may be painful, but it probably will not be of long duration.

The uses of paper have exceeded past expectations because of the great



growth of business in the postwar period. In the last five-year period, the number of business concerns in the United States increased 30 percent — from 3,008,000 companies in operation in 1944 to 3,912,000 in 1949.

The standard of living of the American people has increased, and this has resulted in further increases in the per capita use of paper. Furthermore, the population of the U. S. continues to grow faster than had been expected some years ago. The latest Census figures indicate a population at the beginning of 1950 of approximately 150 million people, compared with 130 million at the end of 1938. Tentative forecasts have been made for a population increase to 167 million in the next decade. The present per capita consumption is 331 pounds and further growth is confidently expected. Accordingly, there is good reason to believe that paper requirements of the country will be such as to occupy all of the existing paper machine capacity within a few years.

The ten-fold growth of the paper industry since the beginning of the century, with the ability of the people of this country to consume this paper, is probably one of the wonders of this age. The growth of the productive facilities, as well as production of the last fifty years, is indicated in the records of the significant periods, as shown in Table II,

TABLE II

U. S. Capacity and Production Paper and Paperboard

Year	Capacity Tons	Production Tons	% of Capacity
1899	2,782,200	2,167,593	78
1904	3,858,000	3,106,696	81
1914	6,439,800	5,152,705	80
1918	7,500,000	5,937,897	79
1919	7,671,000	5,966,076	78
1920	8,540,000	7,185,122	84
1921	8,614,200	5,333,397	62
1922	8,970,000	6,874,834	77
1929	13,704,480	11,140,235	81
1930	13,643,100	10,169,140	75
1931	13,971,700	9,381,840	67
1932	13,728,040	7,997,872	58
1937	15,572,850	12,837,003	82
1939	16,557,410	13,509,642	82
1945	20,282,000	17,370,965	86
1946	20,420,000	19,277,667	94
1947	22,025,476	21,113,053	96
1948	23,389,000	21,921,033	94
1949	24,236,000	20,300,000	84

Pulpwood and Wood Pulp Inventories Reduced

Pulpwood

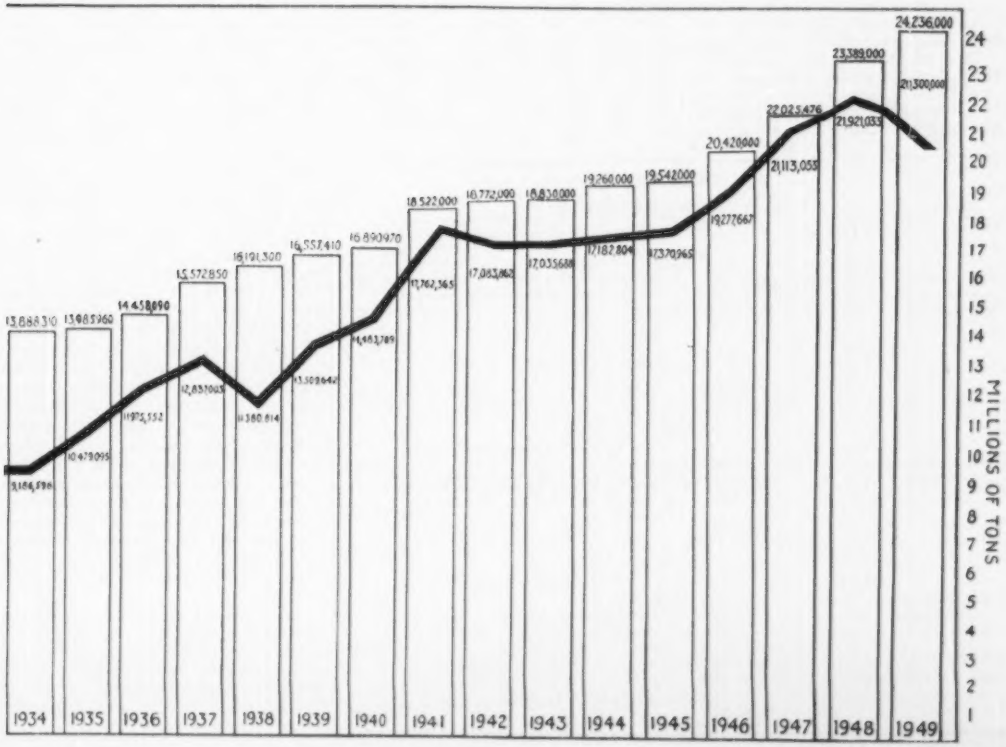
Pulpwood consumed by the U. S. pulp industry in 1949 declined 6 percent, while inventories were decreased by 16 percent. The excessive inventories of 1948 and early 1949 were brought into better balance in relation to the current rate of operations.

Readjustment of Postwar Wood Pulp Markets

Postwar economic trends in the pulp industry, on the whole, followed the pattern of trends in other basic industries.

At the cessation of hostilities in 1945 it was certain that there would be a continuation of wartime pulp shortages even after the accumulated reserves of Scandinavia's pulp producers were received and consumed. Likewise, scarcities made it apparent that price rises would be inevitable as soon as OPA controls were lifted. The natural consequence in an economy such as ours was a strong urge for inventory building, which lasted until the supply was brought into balance with requirements for consumption.

At about the time that wood pulp supplies and demand were in balance, buyers of paper found themselves in an overbought position. Their orders to paper mills declined, resulting, of course, in a lower rate of pulp consumption. The usual result of an overbought market is an intensification of competition and price declines. This leads to a turn-about in buying policies, a constructive effort to avoid inventory losses by using stocks, an effort to sell end products produced from high-priced raw materials before the market collapses, and a "clearing of decks" for inventory replacements at bargain prices.



In August when paper production, and therefore pulp consumption, increased, buyers of pulp found their inventories inadequate. Buying policies again were reversed and increased purchases were in order.

By the end of 1949, bleached pulp inventories, expressed in terms of the then-current consumption, declined to practical minimums. Inventories of purchased bleached sulphite and bleached sulphate at semi-integrated and non-integrated mills at the end of the year were equal to 1.4 months consumption. Similarly expressed, inventories of unbleached sulphite declined from 3¼ months consumption in December 1948 to 2.0 at the close of 1949; kraft declined from 4.1 to 1.5 months consumption.

The statistical position of pulp reflects the strength of the market. At the rate of pulp consumption early in 1950, there was little likelihood of inventory accumulation until the new pulp mills now being built were completed. Approximately 1,000 tons per day of new bleached sulphate capacity will become available on the North American continent during the course of 1950.

Devaluation

The long-expected devaluation of European currencies, particularly those of Scandinavian countries, came on September 18, 1949. The 30 percent decline in the value of these currencies, in terms of the U. S. dollar, created considerable apprehension as to the effect on prices for American pulp and paper. It is now reasonably certain that the direct effect will not be nearly as drastic as it was in the 30's when the violent changes in international exchanges created serious difficulties for the pulp market, and with it, the paper market. In the 30's, overseas imports, mainly from Scandinavia, represented about 56 percent of the market pulp consumption in the U. S. The great growth of the pulp industry on the North American continent in the 40's and the reduced pulp production in the Scandinavian countries (because of the limited wood supply) now has reduced the percentage of European pulp to 18 percent of our total market pulp.

As Europe recovers from the effects of the war, its pulp and paper requirements are expected to increase. With European pulp production limited, it is expected that their importance in the North American market will decline further. The F. A. O. Conference in Montreal last spring concluded that, within five years, the European continent would become an importer of pulp and paper and that the North American continent would be practically self-sufficient as far as pulp is concerned.

Prospects for 1950 and Beyond

General Business

Our economy still remains precariously balanced between inflationary and deflationary forces and the government's fiscal policies continue to be the all-important factors in determining future trends. For 1950, economists, both government and private, bankers and even "ordinary businessmen", almost are unanimous in their belief that the outlook for the first six months of this year is bright. Few have ventured many predictions about the second half of 1950, but most of those few who have had the courage to go that far have indicated a decline in business activity but not as severe as the decline which took place in the spring and early summer of 1949.

The country started 1950 with a reduced and better balanced inventory position than a year ago. The outlook is for continued high personal incomes. The 1950 monthly average of the Federal Reserve Board index probably will not vary much from last year's average of 176.

The production of non-durable goods is likely to be higher than in 1949. Increases in output are expected in textiles, shoes and food products. These, in turn, will require increased quantities of paper for wrapping and packaging. The consumption of writing paper also is quite sure to rise to record the increased number of transactions — to say nothing of the increased requirements of writing paper to draw up pension plans.

The Paper Industry

For the year 1950 it would appear that minimum consumption requirements of domestically-produced paper will be about 21,000,000 tons. These consumption requirements might even be as high as 22,000,000 tons, if the volume of general business continues throughout the year at the rate indicated in January.

There is evidence that at the beginning of 1950 paper perhaps is again being produced at a faster rate than it is being consumed. In other words, a new accumulation of inventories may be in the making. Moderate increases in inventories are, of course, necessary to support the increased volume of sales at all levels of distribution. However, excessive inventory accumulations could pose a threat to the continued high rate of operations in the paper industry. The current balance of economic forces provides little incentive for speculation in paper inventories. Accordingly, there is little likelihood that the excessive accumulation of 1948 will be repeated.

The popular acceptance that last year marked the completion of the first half of the 20th Century is cause for a quick look at the progress since 1899, as well as the possibilities for the closing half of the 20th Century. In 1899, production of the U. S. paper and paperboard industry was 2,168,000 tons. Our "normal" production now is just ten times that amount, although production was less than that for 1949 because of the business readjustment. In only 10 of the last 50 years has production been less than in previous years—invariably in years of business readjustment or because of wartime controls. But as a dynamic industry, it always has bounced back, after such temporary setbacks, to new high records.

The industry may not grow in the geometric proportions of the last 50 years, but it will continue to grow as our population increases, living standards are enhanced and the volume of business transactions and intricacies of our civilization multiplies.

TABLE III

Total Wood Pulp—All Grades

1947

Supply		*U. S. Consumption and Exports*	
Imports—Canadian	1,538,000	Exports	130,000
Imports—European	792,000	In Manufacture of Non-paper Products	570,000
U. S. Production	11,946,000	In Manufacture of Paper and Paperboard	13,285,000
			13,985,000
		Inventory Replacement	291,000
	14,276,000		14,276,000

1948

Supply		*U. S. Consumption and Exports*	
Imports—Canadian	1,602,000	Exports	94,000
Imports—European	575,000	In Manufacture of Non-paper Products	623,000
U. S. Production	12,872,000	In Manufacture of Paper and Paperboard	14,332,000
	15,049,000		15,049,000

1949 (Preliminary)

Supply		*U. S. Consumption and Exports*	
Imports—Canadian	1,314,000	Exports	124,000
Imports—European	449,000	In Manufacture of Non-paper Products	575,000
U. S. Production	12,153,000	In Manufacture of Paper and Paperboard	13,608,000
	13,916,000		
Withdrawal from Inventory	391,000		
	14,307,000		14,307,000

The Paper Industry in 1949

DR. LOUIS T. STEVENSON
Economist, American Paper and Pulp Assn.

During 1949 the paper industry experienced a short and sharp but nevertheless complete business cycle. Its main features were a sharp drop in production to the bottom of the cycle in July and an equally sharp recovery in the third quarter.

The accompanying charts may serve to illustrate some of the effects of this cycle on the earnings of labor and stockholders. These charts show relatives to January 1949 as 100 percent.

The drop in production was accompanied by a drop in the weekly earnings of employes. The average hourly earnings remained stable despite a decline in the price level for the product. The drop in weekly earnings was, therefore, due to the lower ratio of production to capacity and not to a decrease in wage rates. This can be seen in the top three charts.

"Real" wages represent the buying power of the money wages received by employes. This buying power dipped in the middle of the year, although it still remained slightly above average weekly earnings because of the slight drop in the cost of living. This decrease in the cost of living obtained throughout the balance of the year. By November "real" weekly earnings were a little above the January level. These, and average weekly earnings, went through a complete cycle in eleven months.

Labor productivity, as shown in the center chart, indicates the number of tons produced per man hour. By dividing these into average hourly earnings, the labor cost per ton is arrived at.

Labor productivity moved with some uncertainty, but in the same general direction as the movement of the ratio of paper production to capacity. The net changes in labor cost per ton resulted in a slight drop in March, with a rise to a peak in July, followed by a decline to about the January level by November.

During the first nine months the price level dropped slowly but steadily, after which it leveled off.

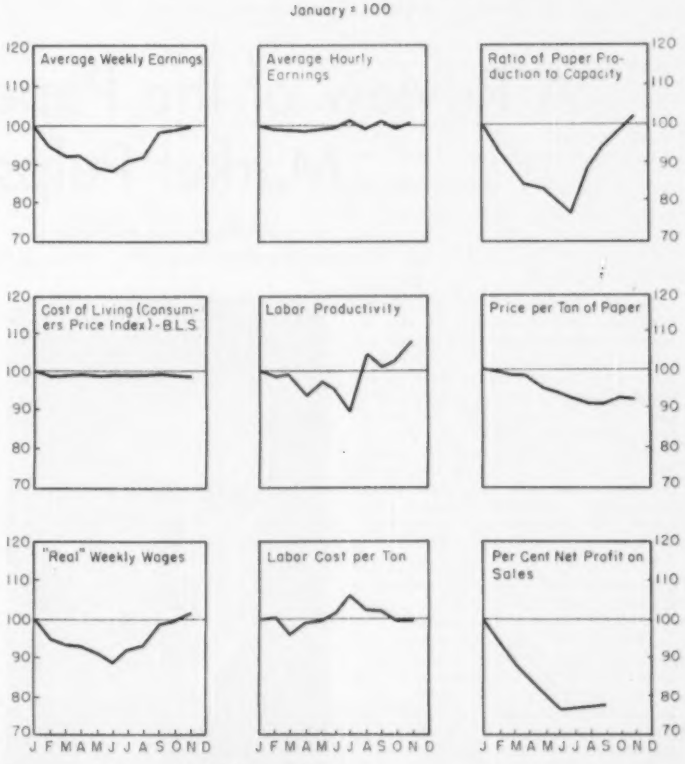
The key position of the ratio of production to capacity in its effect upon key costs and both wages and profits in the industry, is apparent. As the production ratio dropped, average weekly earnings shrank while labor cost per ton was moving up. At the low point of the production ratio, in July, weekly earnings were also at a low point, while in the same month labor cost per ton was the highest for the year.

Net earnings for stockholders (net profits) are reported on a quarterly basis and consequently cannot be compared exactly with the monthly series previously discussed. The profit chart is drawn on the basis of 1948 annual earnings as 100 percent. The first quarter data for 1949 are shown at March, the second quarter at June, and the third quarter at September on the chart. July, the month in which production was lowest, falls in the third quarter, which also includes the months of August and September, during which a rising volume of production was experienced.

Net profit is determined after deducting from sales all costs and expenses. Net profit is directly affected by the price level, labor cost per ton, costs of raw materials, supplies and overhead. During 1949 the price level and labor cost per ton moved in opposite directions for the first two quarters — prices down and labor cost per ton up. The decreasing ratio of production to capacity in that period, it will be realized, operated inversely upon unit overhead costs, that is, unit overhead costs rose as the ratio dropped. It is, therefore, not surprising that profits dropped.

In the third quarter, with a rising production ratio, labor cost per ton was declining while prices had begun to level off at about 8 percent below the plane of January first. As applied to the third quarter this analysis would indicate low profits in July and a rising profit in August and September.

THE 1949 RECESSION AND RECOVERY



Source: The American Paper and Pulp Association

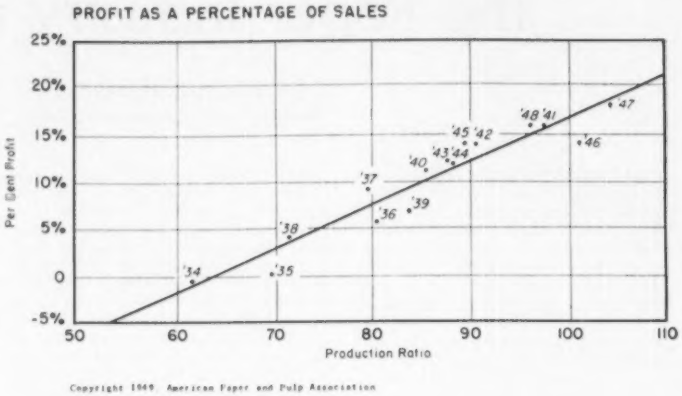
The net earnings for the third quarter were in fact slightly higher than in the second quarter.

It seems clear that both profits and average weekly earnings are closely tied to the ratio of production to capacity. When the ratio moves up or down, both average weekly earnings and profit move in the same direction. The earnings of both labor and stockholders are, therefore, tied together by the production ratio and with respect to that ratio their interests are mutual.

This analysis tends to confirm the conclusion of a previous study which indicates a close correlation between the American Paper and Pulp Association's annual production ratio and the overall industry profit on sales before taxes. In the following chart the production ratio is plotted on the horizontal against the profit on sales before taxes on the vertical ordinate. The line of normal relationship has been calculated through 1948 and is shown on the chart.

Industry earnings for the fourth quarter are not yet available. The high ratio of production to capacity at which the industry operated would indicate higher profit than in the third quarter, according to this analysis. The average profit on sales before taxes for the first three quarters was 12.9 percent. The same rate for the year is indicated by the line of normal relationship in the above chart at 12 percent.

RELATION OF PROFIT (BEFORE TAXES) TO THE PRODUCTION RATIO



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It is recognized that the important relation between prices of raw materials and prices for finished paper is not directly accounted for in this analysis. That is a variable the measurement of which has, for several reasons, not been attempted here. Empirically the line of normal relationship shown above, however, seems to have yielded rather close results over a period of fifteen years including depression, "boom and bust" and boom again. It is at least possible that this and other factors may bear a direct relationship to the production ratio. That will call for a study in itself, but in the meantime it is clear that the ratio of production to capacity bears a very important relation to overall industry profits.

A Review of the Paper Grade, Market Pulps

KARL A. CLAUSON
Executive Secretary, Association of Pulp Consumers

During the latter half of 1949 we witnessed the completion of the inventory adjustments which were begun in the middle of 1948. This coincided with the general business upturn which, basically, was nothing more or less than a recovery from the "inventory adjustment stumble" that had occurred in most lines, with the exception of motors, and which had tended to obscure the basic soundness of the underlying economic factors, i.e., money in circulation, employment, bank deposits, retail sales, etc.

It is important to note that the actual consumption of paper and board at the consumer's level did not decline significantly during this period. The Department of Commerce reports that personal consumption expenditures, which are a good indication of the actual consumption of paper, were $178.8 billion in 1948 and $178.5 billion in 1949, representing a decline of less than 2/10th of 1 percent.

Although there was virtually no evidence of a decline in the overall consumption of paper, paper inventories held by both distributors and mills had grown too large and had to be liquidated before there could be a satisfactory resumption in operations. In 1948 there were 21,921,757 tons of all grades of paper and board produced in the United States; preliminary figures indicate that we produced 20,304,243 tons during 1949. This represents a reduction of 7 per cent in total production of paper and board.

The paper mills, in turn, held high pulp inventories, which they also had to reduce before they could resume normal pulp purchases. In 1948 we purchased a little over 2,500,000 tons of market pulp from all sources; in 1949 we purchased slightly more than 2,100,000 tons. This represents a 16 percent reduction in market pulp purchases.

The cumulative effect of the inventory adjustments from the household level back toward the raw material

stages is readily seen. Actual consumption of paper at the household level was virtually unchanged; paper production at the mill level was reduced 7 percent; while the purchases of market pulp were cut 16 percent. In other words, the market pulp mills, both domestic and foreign, felt the effects of the inventory adjustment to a greater extent, measured in the terms of a percentage of operations, than did either the paper mills, the distributors, or the retailers.

Even though the impact of the curtailment was mitigated for the foreign producers to a large extent by the benefits of devaluation, and to some extent by the sound marketing policies of the domestic mills, there were several aspects of the curtailments in pulp production which have an implication on the supply for 1950 and as such should not be overlooked. First, the actual tonnage which was not produced is irrevocably lost, and secondly, through reduced rates of operation some capacity became marginal to the extent that it was permanently closed down.

As paper demand recovered during August and September, the non-integrated mills found that their pulp inventories, pared down to the reduced operations existing during the first half of the year, were generally too low for the increased level of operations. This resulted in stepped-up pulp purchases to (1) meet increased production requirements, and (2) to increase inventory to the higher rate of production. The increased demand for pulp coincided with the devaluation of the Canadian and Scandinavian currencies in late September thereby absorbing, without serious market dislocation, the increased shipments of foreign market pulp which inevitably resulted.

Supply Picture for 1950

In analyzing the market pulp supply picture for 1950, we have prepared a series of charts to illustrate the general trends involved over the past 13 years. The new supply of each grade of market pulp is the aggregate of all shipments for the year, as reported by the U. S. Department of Commerce, from each of the principal producing areas, i.e., domestic, Canadian, and European. Both dissolving pulp and integrated imports from Canada have been excluded, although in the latter instance the integrated imports from Canada through 1945 had to be estimated as no reliable data on market pulp shipments before 1945 is available.

Total New Supply

Chart I shows the total new supply of all grades of market pulp and the producing area from which it was shipped.

Pulp movements during the war were controlled by allocations, and must be eliminated if we are to generalize about long-term trends of supply. Comparing the three pre-war years with the four post-war years, we see the following basic changes in the market pulp supply pattern to the United States consumer:

	Pre-War Average	Post-War Average
Europe	1,400,000 tons	600,000 tons
Canada	350,000 tons	800,000 tons
Domestic	650,000 tons	1,000,000 tons

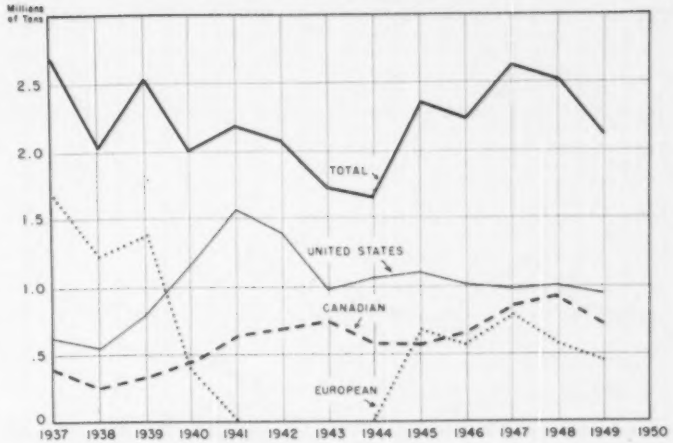
In other words, our supply of Scandinavian pulp has declined quite sharply while both the domestic and Canadian supply has increased. There are a number of reasons for these changes and we might mention, without going into too much detail, a few of the reasons. First, there were the shipping restrictions imposed during the war period which tended to establish new patterns of pulp shipments; secondly, there was the over-cutting of the forest resources which had been going on to some extent in Scandinavia prior to the war and which was aggravated during the war, and thirdly, there was the destruction and loss of both forests areas and pulp capacity during the war which has tended to establish new patterns in demand.

In order to give these general trends meaning we must look at the impact of these changes on the individual grades. They have affected some grades much more than others.

Bleached Sulphite

Chart II reveals that, despite the decline in total market pulp supply in 1949, bleached sulphite sales increased

SOURCE OF PAPER GRADE MARKET PULP
SOLD IN THE UNITED STATES



Prepared for the Association of Pulp Consumers, Inc. Chart I

SOURCE OF BLEACHED SULPHITE MARKET PULP

Prepared by the Association of Pulp Consumers, Inc. Chart II

SOURCE OF BLEACHED SULPHATE MARKET PULP

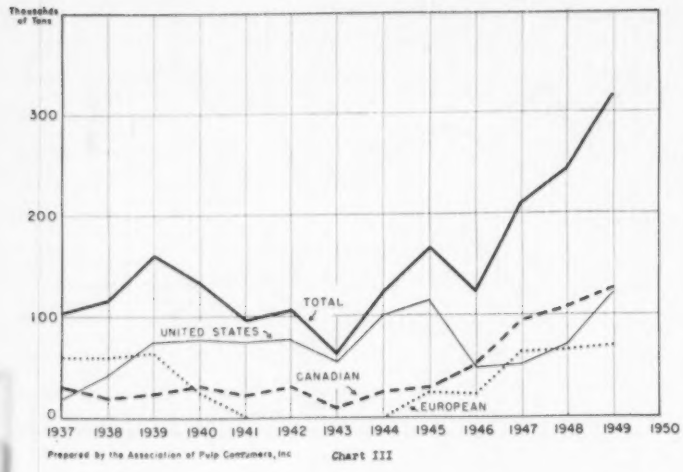


Chart III

for the fifth consecutive year. Domestic sales accounted for about two-thirds of total market supply, with Canadian and European sales following, in that order, and accounting for the remaining one-third.

Preliminary figures indicate that the purchases of bleached sulphite during 1949 were approximately 730,000 tons while consumption reached 760,000 tons. This indicates a deficit in purchases, accounted for by inventory withdrawals during the year, of 30,000 tons. Demand for this grade during 1950 is expected to remain at approximately 760,000 tons.

As inventories are at a practical minimum level, this indicates that bleached sulphite demand will be firm through the first half of the year. The last six months will be influenced by the new capacity which is expected to enter the picture during that time.

Bleached Sulphate

Chart III spotlights the tremendous growth which has taken place in the supply (and demand) for bleached sulphate. This growth is expected to continue during 1950.

European supply of bleached sulphate is virtually unchanged from its pre-war level, although the quality has been greatly improved. Both domestic and Canadian supply, on the other hand, has increased significantly with further additions to market capacity expected from both sources during 1950. The Association, in a recent survey, showed that the consumption of this grade for 1949 was expected to reach 310,000 tons and the anticipated consumption for 1950 was 375,000 tons. While this increased consumption of 60,000 tons is taking place, there is an estimated increase in new supply of roughly 96,000 tons. As most of this new capacity is coming into production during the second half of the year, the demand is expected to be exceedingly firm during the first six months with a gradual easing in supply during the last six months.

Unbleached Sulphite

Chart IV reflects the very sharp drop in the purchases of unbleached sulphite which took place during 1949. The abruptness of this decline was influenced by a withdrawal during the year of approximately 80,000 tons of this grade from inventory.

Purchases of unbleached sulphite will, in all likelihood, be about 80,000 to 100,000 tons higher during 1950. Despite this increase the long-term trend is downward, and the market for this grade, particularly in the poorer qualities of unbleached, will remain weak during 1950.

Scandinavian unbleached accounted for four-fifths of the total supply in 1937. In 1949, with the total supply down 50 percent below the 1937 level, Scandinavia shipped less than one-third of the total.

Although Canadian shipments of unbleached sulphite dropped sharply in 1949, they are still considerably higher than they were before the war. This growth in Canadian supply is principally due to the expansion of the Canadian newsprint production which necessitated the increased production of news grade unbleached.

Domestic production of this grade (chiefly accounted for by one mill) has not shown a significant change from its pre-war level. It is expected, however, that the quality of domestic unbleached will be materially improved during 1950.

Unbleached Sulphate

Chart V reveals that the long-term trend in the supply (and demand) for market unbleached sulphate is declining.

Although both domestic and Canadian supply has increased, the Europeans still maintain their position as the principal supplier of this grade.

Our market studies indicate that there are two distinct levels of consumption of unbleached sulphate.

First, there is the basic demand which stems from mills making specialty products in which the quality of the pulp, and not the cost, is the major consideration. These products are not in close competition with the products of the integrated kraft industry. The monthly requirements of these mills is estimated at 20,000 to 25,000 tons. This constitutes the basic demand for unbleached sulphate.

The secondary level of demand comes from non-integrated mills making paper and paper products which

SOURCE OF UNBLEACHED SULPHITE MARKET PULP

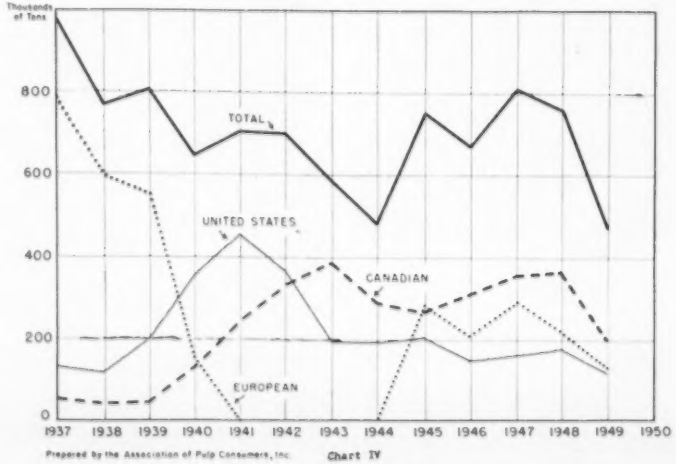
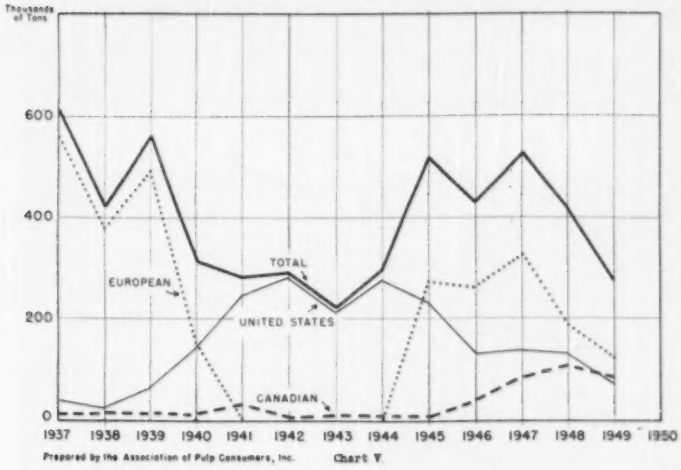


Chart IV

SOURCE OF UNBLEACHED SULPHATE MARKET PULP



Prepared by the Association of Pulp Consumers, Inc. Chart V

are competitive with the southern integrated mills. If the price of purchased unbleached sulphate is low enough to permit the competition with integrated mills, this group will purchase from 20,000 to 25,000 tons per month. Due to the existence of this secondary level of demand which can quickly be brought in—or taken out of—the market, there are expected to be sharper fluctuations in demand for this grade than for any of the others.

During 1949 the differential between selling prices of unbleached and the bleached grades of market pulp bore virtually no resemblance to the actual cost of bleaching.

The differential between bleached and unbleached sulphate is a striking example. At the beginning of last year some grades of unbleached sulphate were quoted at $127.50 on dock, while bleached sulphate was selling at $136.00 to $145.00 delivered. By the end of the year many grades of unbleached had dropped to below $82.50 delivered, with the bleached remaining at $126.00 delivered. This was equivalent to a grade differential in excess of $43.50 per short ton. Due to the precarious competitive position of the secondary level of demand (previously discussed) for unbleached sulphate, it is not believed that the amount of the differential will be appreciably reduced during the first six months.

Self-sufficiency?

These charts show clearly the dependency of the non-integrated mills in this country on an adequate world supply of market pulp. We are not domestically, or even hemispherically, self-sufficient in a single grade of chemical pulp.

While Scandinavia, for example, is our most important supplier of only one grade — unbleached sulphate, it supplies substantial quantities of the other three grades. A loss of the Scandinavian tonnage in any one of these grades would have serious consequences.

Because of this dependence on a world market for wood pulp we must remain particularly vigilant concerning the political and economic factors affecting international trade.

Summary

Last February the non-integrated mills were in a comparatively vulnerable situation. Our paper prices were generally weak and our pulp inventories, both in volume and in value, were too high. Despite the pessimism which was rampant a year ago, the non-integrated mills faced the problem squarely. Today they are in a far sounder position. They have weathered the sharp fluctuation that took place during the past year. They have reduced both the total tonnage and the average value per ton of the inventory they hold. They have arrived at what appears to be, a reasonable stability both in the pulp demand as well as in the paper sales.

The economic health of the non-integrated mills gives assurance to the market pulp suppliers in this country, in Canada, and in Scandinavia, that they are a vigorous and essential part of the American paper industry. I want to point out, also, that the economic health of the market pulp suppliers gives us the assurance of a continued world supply of market pulp for the future.

Wisconsin Anti-Pollution Program

MADISON, Wis. — An experimental program for which Wisconsin's pulp and paper mills expect to invest well over a million dollars in research and new industrial equipment is believed here to be an important step along the road toward reducing or eliminating stream pollution.

Already, Badger state sulphite manufacturers have put more than $700,000 into the Lake States Yeast Corp. factory at Rhinelander, which is testing the commercial possibilities of reducing pollution by growing torula yeast in the spent sulphite liquor from the mills. The yeast organisms thus grown are dried and used as vitamin supplements in feeds for several varieties of poultry and farm animals. Experimentation also is being financed by the mills to determine whether this yeast can be used as an article of human diet. A spokesman for the State Water Pollution Committee and an official of the Wisconsin Department of Health said here that both groups are watching this experimental work with great interest, and that the work thus far indicates strong hope for sharp reduction of stream pollution by this means.

As the result of the preliminary success of the experimental work in the yeast plant at Rhinelander, the Sulphite Pulp Manufacturers' Research League has launched an extensive program of financing similar research in universities and colleges. The Sulphite League's directors voted at a meeting in Neenah this week to authorize an appropriation, amount not determined, to finance one entirely new experimental project on another phase of the value of the dried torula yeast in poultry feed. Still another project of the same type, to determine the possibility of using the yeast in hog feeding, also was authorized by the directors. Negotiations now are under way between the League's scientists and the agricultural colleges of two large universities for setting up these projects.

The University of New Hampshire already has a cash grant from the League for a study of the feasibility and value of torula yeast as a food for fish in farm ponds and hatcheries. The New Hampshire school several years ago conducted some of the early feeding tests which first put the scientific O.K. on this by-product of spent sulphite liquor as a vitamin supplement of value in poultry feeds.

The University of Wisconsin departments of poultry husbandry and biochemistry also have received cash grants from the Sulphite League to make further studies into the value of this type of yeast in poultry rations.

One of the largest problems still confronting the mills—even though all of the research proves the value of the yeast process—is to find markets large enough to absorb the output if Wisconsin's 15 sulphite mills should begin using the process. To seek a solution for this economic problem, the mills' research organization also has appropriated several thousand dollars to explore possible further uses for the yeast product, and to study the marketing problem on a nationwide basis.

Recent Trends in Wood Pulp

JAMES L. RITCHIE

Executive Director, U. S. Pulp Producers Assn.

The calendar year 1949 was a year of wide cyclical movements in the domestic wood pulp industry.

Summary data for the year as a whole, while significant for record purposes, will not indicate the extent of the readjustments that occurred within the industry during the course of the year.

So broad were the industry's economic fluctuations during 1949 that postwar records were set on both the high and the low side during separate quarterly periods within the year.

Production

United States wood pulp production in 1949 totaled 12,153,000 tons, 6 percent less than in 1948.

Of the total volume of wood pulp produced domestically in 1949, 89 percent was produced for "own use" and 11 percent for the market. Market pulp production in 1949 was 12 percent less than in 1948, production of "own use" pulp 5 percent less.

Production of chemical wood pulp for the market totaled 1,239,000 tons in 1949. Of this total, 82 percent was bleached chemical pulp and 18 percent unbleached chemical pulp. Dissolving and special chemical grades, which find their major outlet in industries other than the paper industry, constituted 36 percent of bleached pulp production, and paper grades 64 percent.

Market pulp production averaged 100,000 tons a month in the second and third quarter of 1949 and rose to an average of 121,000 tons a month in the final quarter of the year; market pulp production averaged 125,000 tons a month in 1948.

Imports

United States imports in 1949 totaled 1,763,000 tons, 19 percent less than in 1948.

Imports of *market* pulp in 1949 totaled 1,299,000 tons, 74 percent of total imports.

Of these market pulp imports, 65 percent was received from Canada and 35 percent from Europe. Total market pulp imports from Canada in 1949 were 27 percent less than in 1948, imports from Europe 22 percent less.

Of the total volume of market pulp imports in 1949, bleached chemical pulps constituted 48 percent, unbleached chemical pulps 42 percent, and groundwood 10 percent.

Canada supplies 74 percent of our imports of market bleached chemical pulps, 51 percent of our imports of market unbleached chemical pulps, and 86 percent of our imports of market

groundwood. The balance, in each case, came from Europe.

Economic recovery in the fall of 1949 resulted in a sudden resurgence in the demand for imported pulps. Imports of European wood pulp, which averaged 22,000 tons per month in the first nine months of the year, increased to an average of 82,500 tons per month in the last quarter. Imports from Canada averaged 104,000 tons a month in the first nine months of 1949 and 127,000 tons a month in the last quarter.

Exports

United States exports of domestically produced wood pulp in 1949 totaled 122,000 tons, 30 percent more than in 1948.

Of these 1949 exports, 75 percent was shipped in the first half of the year and only 25 percent in the last half. With the devaluation of foreign currencies in September of last year, domestic pulp producers became generally non-competitive in export markets.

New Supply

The new supply of market wood pulp for United States consumption in 1949 totaled 2,494,000 tons, 21 percent less than in 1948.

Of this 1949 new supply, 48 percent was of domestic origin and 52 percent imported. Domestic producers supplied 61 percent of the 1949 new supply of bleached pulps for the United States market, 23 percent of the 1949 new supply of market unbleached pulps, and 23 percent of the market groundwood.

Domestic producers might well have supplied a larger proportion of these totals had domestic purchasing policies in 1949 been less volatile.

Consumption and Inventories

Consumption of wood pulp in United States paper and board production totaled 13,608,000 tons in 1949, 5 percent less than in 1948.

Of this consumption, 83 percent was "own use" pulp and 17 percent market pulp. Consumption of "own use" pulp in 1949 was 4 percent less than in 1948, consumption of market pulp 10 percent less.

Consumption of market chemical pulp by the paper and board industry totaled 2,081,000 tons in 1949. Bleached chemical pulps were 56 percent of this total and unbleached chemical pulps 44 percent.

Of the total volume of market chemical pulp consumed by paper and board industry in the first nine months of 1949, 86 percent was purchased and 14 percent was withdrawn from consumers' inventories. Consumers' inventories of market pulp during this nine-month period declined by 203,000 tons or 43 percent. Purchases in the last 3 months of 1949, however, were in excess of actual requirements for consumption. The level of consumers' inventories of market chemical pulp, therefore, increased by 36,000 tons during the last quarter.

Year-end consumers' inventories of all grades of market pulp, however, were 343,000 tons, 34 percent below the level of inventories on January 1, 1949. Year-end inventories, based on fourth quarter operating rates, represented only a 1⅓ month's supply for bleached sulphite pulps, a less than two months' supply for unbleached sulphate, a 1¼ month's supply for bleached sulphate and a 1½ month's supply for unbleached sulphate.

Outlook

Since the beginning of the fourth quarter of 1949, when postwar inventory cycles in the pulp and paper industry were largely completed, the economic climate in which the industry has operated has been generally favorable. As a result, pulp and paper production in the last quarter was at new record rates. There is a reasonable expectation that experience in the first quarter of 1950 will be equally favorable.

Here's a Quick

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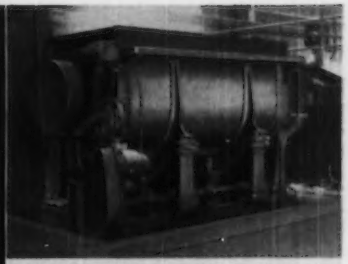

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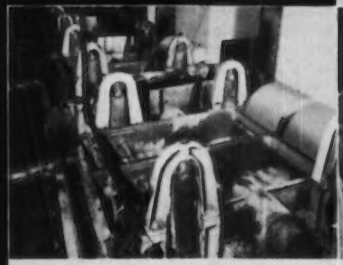

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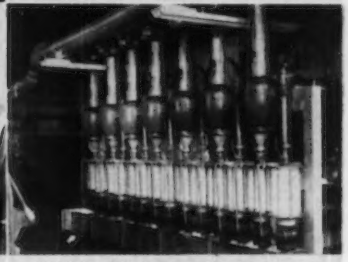
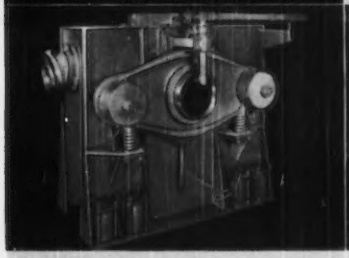


DIRTECS — for thorough, efficient removal of heavy and fine dirt both ahead of Bird Screens and as screen tailings units.



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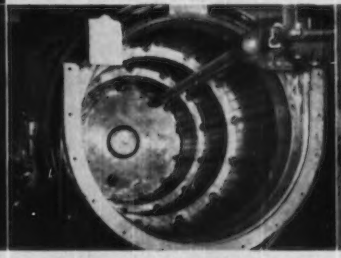
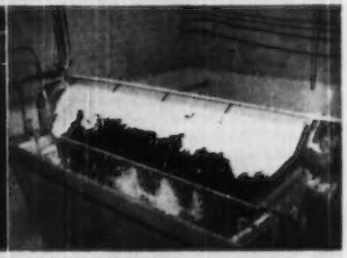
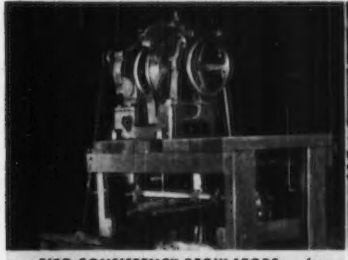


SHOWER PIPES — both Self-Cleaning and Oscillating. The Bird Oscillating Shower, pictured, increases screening efficiency, uses far less water.



BIRD SAVE-ALLS — for low cost recovery of good fibres from machine waste water. Quickly pays for itself out of net savings in stock, water and time.



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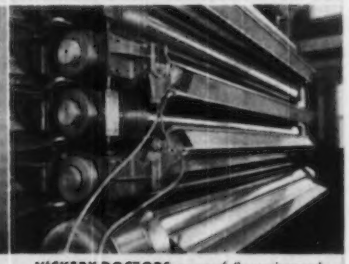

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It may not be entirely realistic to expect, however, that pulp and paper production will continue at recent levels throughout 1950. There are some evidences that current production levels in paper and paperboard may be somewhat in excess of consumption. The possibility of a new inventory cycle in paper and paperboard remains as a possible threat to continued high-level consumption and production of wood pulp.

There is no evidence that a similar inventory cycle is again starting in wood pulp. Consumers' inventories of market wood pulp are currently below a practical working minimum. Producers' inventories are no longer excessive. At current operating rates in the pulp consuming industries there will be little opportunity for any significant rebuilding of consumers' inventories of wood pulp, at least until after the next open water in Europe.

The measure of any prospective decline in the demand for wood pulp should, therefore, at a maximum, approximate the actual decline in the volume of wood pulp consumed.

Our Face Is Red

The following credit line was inadvertantly omitted from the article "State Forest Products Research in Michigan" by Hereford Garland, which appeared in our February 16th issue:

Presented at the 1949 Annual Meeting of the Forest Products Research Society at Grand Rapids, Michigan.

Annual Meeting of Members National Council for Steam Improvement, Inc.

Nineteen hundred forty-nine was a year of great progress for the National Council for Stream Improvement program. The report of George E. Dyke, chairman of the board of governors of the National Council for Stream Improvement submitted at the annual meeting of members at the Waldorf-Astoria on February 22, stressed increased technical services made available to members, broadened cooperative relations with state, interstate and federal agencies, accelerated research production and continued membership expansion during 1949.

The following Board of Governors was elected: D. K. Brown, Alexander Calder, Hugh J. Chisholm, George E. Dyke, D. C. Everest, R. G. Fairburn, R. K. Ferguson, Sydney Ferguson, Sidney Frohman, P. H. Glatfelter, R. A. Hayward, J. H. Hinman, J. L. Hobson, Clyde B. Morgan, H. W. Morgan, W. Irving Osborne, Jr., Reuben Robertson, Sr., Dwight L. Stocker, M. W. Swaim, Lawson P. Turcotte, George R. Wallace, L. F. Whittemore, and J. D. Zellerbach.

Our Accomplishments

1900-1950-2000

That Newspaper Trust

Editorial

The newspaper managers who have been clamoring for a congressional raid on the so-called "Paper Trust" should pause long enough to read the decision by the Supreme Court of Illinois in the case of the Chicago Ocean and the A.P. Everyone of the newspapers that has been prominent in urging the demand for repeal of the tariff duties on pulp and paper because they foster a trust is a member of A.P.

Bagasse Paper

There is one mill in the South making paper from Bagasse at Sugarland, Texas. It is that of Mr. Cunningham. Three other plants are projected. These new mills will be erected to relieve sugar men of accumulated stocks of bagasse.

Threatened Coal Famine at Watertown

Canadian Manufacturers Will Organize to Control Prices

Newsprint at 2¼c delivered is too low for profit. E. B. Eddy Company is asking $15 for groundwood, $50 for sulphite. Groundwood sales at $10; sulphite at $32; unwarranted increase.

One of the Fat Years

1899 export trade largest in our history.

Perkins-Goodwin have installed an exchange station. Franklin 2270.

Hammermill Paper Co.'s new company plant erected in Erie.

Problem—Can Spruce and Hemlock chips be cooked together?

Pulp Imports British North America:—11 months, 1899—34,943 tons—$688,782.

Low Water in New England

Problem—In sulphite and groundwood from pine, how should wood be used to avoid pitch.

23rd Annual Convention of APPA

February 14-15 at the Waldorf

Arthur D. Little, Esq., distinguished young chemist, invited to speak on prospective new uses for pulp and paper.

President Cheney said: "I am hopeful as to what the future may have in store for our industry. That it will meet from time to time unexpected obstacles, I do not doubt. There need be no fear of paper famine only when extraordinary conditions arise as in the case last year. As consumption uses, as it no doubt will, production is sure to increase."

Mr. H. J. Chisholm said: "The paper industry represents a business of $175,000,000 to $200,000,000 and, being one of the largest in the country, we are deserving of having it properly recognized."

The Winchester (Ky.) Sun urges Kentucky Press to build mill in state.

International considers doubling capacity of So. Gardiner, Maine, sulphite plant.

U. S. Patent 640,186—Carl D. Erman—new method utilizing waste sulphite liquor. Useful products obtained.

Bills to remove duty from paper and pulp introduced.

Ontario Prohibits export of wood cut on Crown Lands.

Quebec radical action imposing $1.90 stumpage tax calls for retaliatory action on our part.

$500 Offered for New Fiber

The Times Democrat of New Orleans offers to contribute $500 to encourage the discovery of a new fiber for use in making paper.

Private advice to *Paper Trade Journal* enables us to say with confidence that Congress will do nothing about reducing tariffs this session.

* * * *

All of us worry from time to time about the prospects of our industry and what outside forces will do to affect the future. Now that we have passed the first 50 years of this progressive century, it is well that we pause and sum up our accomplishments and also the effects of impending influences.

From the news items above, it would appear that times have not changed and that we still have the same old problems and fears haunting us. We can also say without fear of contradiction that we have accomplished almost a miracle. From $175,000,000 to $5,250,000,000 in sales, with paper prices increased only a little over 100 percent when all of the ingredients have skyrocketed, deserves the commendation of everyone.

We can be sure that the paper maker in 2000 will be able to look back on us and find his problems similar to ours.

The moral can be *"Why worry?—The worst is yet to come,—never happens.*

News items above taken at random from Paper Trade Journal, January and February, 1900.

Progress in Paper 1900-1950

D. C. EVEREST

President and General Manager, Marathon Corp.

During the first half of the Twentieth Century the pulp, paper, paperboard, and related industries, have made greater progress than any other basic industry. This is a broad statement but one which I believe, if given careful consideration, can be substantiated.

Today we are consuming twelve times as much paper and paper products as we consumed in 1900. This has been due to the forward looking people within the industry. The constant economical pressure to maintain the competitive position of the industry, due largely to foreign competition, required frequent regional shifts. This developed many competitive situations which necessitated alertness on the part of individual company management. There were no long periods of routine operations. Fortunately, management personnel was alert, and the number of concerns still doing business is evidence of the ability of the men directing those organizations.

At the turn of the century there were a number of mills which had been operated solely for the purpose of immediate return. There may be a few today which are being operated along similar lines. But the vast majority of companies realized that properties must be maintained and that the life of an investment in the pulp and paper industry could be made one which could continue indefinitely, if the physical equipment was properly maintained and replaced from time to time to keep pace with the most recent advancement in the art of papermaking.

Good Labor Relations

Inasmuch as the pulp and paper industry required continuous operation as a matter of efficiency, the industry was the first to recognize the necessity of shorter hours as a means of maintaining good labor relations and efficient operation. At the turn of the century practically every mill in the United States was operating on eleven and thirteen-hour shift basis. This has been reduced to six and eight-hour shift basis with a maximum work schedule of forty hours per week for day workers. There has been fewer labor disturbances within the industry than in any other industry of equal magnitude.

Technical Association Formed, 1915

The formation of the Technical Association of the Pulp & Paper Industry in 1915 brought about the earliest and most complete coverage of the technical problems, of which there were a tremendous number. Other industries have copied the idea. Today there are more men and women engaged in research and development and the solving of technological problems in the paper industry than in any other industry in relation to the number of people employed in it. At the time TAPPI was formed there was a great hue and cry about "technological unemployment," but this theory has been completely dispelled. With the development of new products and the use of paper and paperboard in so many lines, there are infinitely more people employed, in relation to each ton of primary products, than ever before; and each day sees new applications and developments and more employment.

Superintendents Association, 1919

The formation of the Superintendents' Association in 1919 and its continuing work over the past 31 years has given a tremendous impetus to the improvement, development and perfection of methods and machinery used in the art of pulp and paper making.

Utilization of Raw Materials

During the entire time particular emphasis has been placed on the utilization of all types of raw materials. There has always been considerable discussion of the scarcity of raw materials. This has brought about a constant effort on the part of people in the scientific field to find means of utilization of other species of wood, waste products from within and without the industry, and the treatment of paper and paperboard with other materials to make them suitable for uses heretofore undreamed of.

While the industry has been looked upon as "a feast or famine" industry, this has been only the result of a tremendous technological development in the primary manufacture and the rapid extension of new products into new fields. With each new development, the originator of these schemes did not build for immediate needs but for a long range program, in accordance with his ideas as to the ultimate use of such a product. There has been no lack of competition, and as soon as someone developed a new process or the use of some species of wood or other raw material, there were a number of people in the industry who immediately engaged in the same line of activity. This did bring about a series of humps and hollows, occasioned by over production, on the business charts of the industry.

While some people may think this same situation might exist forever, there are very definite limitations as to what can be done. One thing is true—that so long as the industry is dependent on "tree growing," which is controlled by Mother Nature, we will ultimately reach a point where the industry is geared to the time it takes to reproduce a tree. While annual plant growths may have their place in the picture to some extent, they will not displace wood or the complete utilization of waste paper from a purely economic standpoint.

The industry is fortunate in the fact that all of the industries in the United States, with the exception of agriculture, it is the only one which has a readily replaceable natural resource behind it. The development in forestry and forest practices has made remarkable strides and the growing of wood as a basic raw material will be maintained to meet the needs of the industry. With the cooperation of all interested parties, both government and private land owners, there is no reason on earth why the North American

basic raw material supply cannot be perpetuated indefinitely on a mutually profitable and economic basis.

Financing the Industry

Another thing which is of vital importance to employees and stockholders is the fact that during the first half century there has been a complete change in the financing of companies engaged in the manufacture of paper and paperboard and in the conversion of its products. At long last investors have come to realize the necessity of the industry's products and the fact that every other industry is, in one way or another, dependent on paper and paperboard. This will be more evident as time passes.

Fifty Years Industry Growth

A quick resume of what has happened in fifty years gives one an impressive picture of the constant growth and stability of the industry. Comparing the years 1900 and 1949 on the four points which are the fundamental basis of any industry, we find:

	1900	1949
Population (millions)	75	150
National Income (billions $)..	15	222.5
Consumption Paper and Paperboard (million tons)	2.2	26
Consumption Paper and Paperboard (pounds per capita) ..	58	331.1

With the constant increase in population and the development of new uses which affects the consumption in pounds per capita, there is nothing to fear for the current year of 1950, nor the foreseeable future.

With all that has been done during the past fifty years to put the industry on a stable basis, it is only reasonable to suppose that the refinements and discoveries in processes, equipment and use which will occur during the next fifty years will serve to put the industry in top position among all industries. Since all other industries are dependent on it—that is the place it should occupy. There is not now and never will be any economic substitute for paper and paperboard.

Review Of 1949 In The Unbleached Kraft Paper Industry

DERNELL EVERY
Secretary, Kraft Paper Assn., Inc.

In 1949, the kraft paper manufacturing industry enjoyed the third largest year of business in its history. Only when one makes comparisons with such bumper years as 1947 and 1948 does 1949 appear of moderate size. In this respect, it must be remembered that when comparisons are made with 1948 we are using a record high year during which practically every machine in the industry ran full throughout the twelve-month period. Ideal operating conditions of that type for any industry are not frequently duplicated. 1949 production, therefore, although approximately 1,900,000 tons, represents a 12 percent decline from the record established in 1948. The same is true for orders and shipments.

Detailed records of kraft paper production are available for a 16 year period. The year just completed was one of only three years in that entire period (which contained a recession and a world war) in which kraft paper production declined from the previous year. How this occurred in 1949 perhaps requires explanation.

A chart of kraft paper production during 1949 would prove very similar to a chart of the Federal Reserve Board's Industrial Production Index, with which most manufacturers are familiar. The industry was operating practically at capacity at the start and at the end of the year, but in the middle of the year suffered a recession in its business which closely resembled events which took place in a large cross section of American industry. In other words, what happened in the unbleached kraft paper industry dur-

ing 1949 was typical of what happened in most other nondurable goods industries. Inventories had been gradually built up among the industry's customers from early in 1948 until they reached a point in the spring of 1949 when almost simultaneously these customers became apprehensive concerning them. Orders fell off and the manufacturers had only their unfilled orders file to fall back upon for a period of about four months. The industry never does carry a very large file of unfilled orders, consequently a lack of orders almost immediately reflected itself in sharply reduced production. This condition prevailed for about three months, during which time the industry's customers liquidated their inventories and again began placing orders in normal volumes. Many customers even over-waited the proper buying point and were themselves short of stocks for their own operations during the fall. As previously mentioned, the industry closed the year operating practically at capacity.

Although it required four years to bring it about, a postwar inventory adjustment has now been completed. We have entered 1950 with "normal" inventories in the hands of our customers and with the production and consumption of our products in better balance than has been the case in several years. Industrial activity, as a whole, remains strong with a forecast for greater unit sales by nondurable goods stores in 1950 as compared with 1949. Kraft paper is an essential material for packaging these nondurable goods.

In recent years there has been an acceleration in the growth of population as a natural result of higher birth rates and lower death rates. Present population is approximately 150 millions, a figure the United States had not been expected to reach for another ten years. More people mean more retail sales which add to demand for kraft paper for packaging purposes.

In summary, we foresee a good year for the industry in 1950. It should be considerably better than 1949 and could possibly prove equal to the record year of 1948.

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Groundwood Papers in 1949

By
ROBERT E CANFIELD
Secretary, Groundwood Paper Manufacturers Ass'n.

Statistical reports by members and non-members to the Groundwood Paper Manufacturers Association during 1949 show production and shipments off about 13 per cent from 1948, and the average sales values off about 15 per cent. The production record was considerably worse than anticipated, and probably more of a decline than occurred in any other branch of the industry. Why?

In order to understand what has happened in 1949 it is necessary to consider carefully what had been going on for a long time before. As a starter, consider the fact that the 1949 figure, 13 per cent off from 1948, is more than 15 per cent above what was considered to be capacity before the war. Add to that the fact that the low of 1949, the third quarter, was at an annual rate which only once had been exceeded before the war. Consider also that 1949 totaled more than any year in history, except the three post-war boom years. Add to that the fact that some, at least, of the statistical loss of tonnage was actually a shift from uncoated groundwood paper to coated groundwood paper.

With all these facts in mind, it is apparent that the percentage decline figures, set forth above, fall far short of painting a true picture.

Inventory Liquidation

What actually happened to groundwood in 1949 was a close parallel to what happened to the whole industry, and in fact to all industry. The post-war change from sharply limited inventories to no limit at all, apparently was more than the average buyer could resist, and in relieving himself of the inventory worries he had had for several years, he overdid it. Late in 1948 this became apparent in some lines. By early spring of 1949 it had become obvious in all lines, and buying took a sharp decline while excess inventories were being liquidated. Not unexpectedly the pendulum swung too far the other way, with the result that when buying resumed it did so with a bang and went up at a pace which quite obviously had little or nothing to do with consumption. At the end of the year it seemed probable that things had ironed out pretty well and that buying and consumption, in groundwood papers at least, were approximately in balance at levels only slightly below the capacity of the industry to produce. In some other branches of the industry it is not unlikely that during the last quarter of the year some excessive inventories were again established.

In groundwood the downward decline started somewhat later than in most cases. When it happened it went further and the recovery was somewhat less rapid and somewhat less complete than in other fields. Without much room for doubt, the greater decline was the result of the fact that groundwood papers have competitive pressures both above and below—in book paper and in newsprint. Some of the growth of groundwood since the beginning of the war had certainly been in fields where customers should have and would have used either newsprint or book paper had they been available. When both suddenly became freely available, some shift from groundwood was made, which coincided with, and hence magnified, the decline in regular groundwood demand. When demand rebounded, it was only regular demand which did so; and it was not all of that. Hanging paper, the second most important grade in terms of tonnage, sank to an all time low and rebounded not at all! Its recovery did not start until the end of the year.

Viewed in this perspective, it would seem that real groundwood demand in 1949 for papers covered by the Groundwood Paper Manufacturers Association had a decline and recovery of about the same magnitude as did other comparable branches of the paper industry.

Growth in Coated Book

Statistics of the Groundwood Paper Manufacturers Association do not give the whole story of demand for and production of groundwood content papers. There has been for several years a rapid growth in the use of coated papers instead of uncoated. When there is a shift from uncoated to coated book paper, there is no change in the statistical totals. On the other hand, some coated groundwood papers are deemed to be book papers for statistical reporting purposes. In such cases shifts from uncoated groundwood paper reflect themselves in a reduction in the total groundwood paper statistics. Accurate data covering this situation are not available. It is known, however, that coated paper on a groundwood base sheet, statistically reported as book paper, increased somewhat in 1949 compared with 1948.

Taking all these facts together, it seems to be a reasonable conclusion that customer acceptance of groundwood papers in the market has not changed appreciably in the period of change from sellers' to buyers' market. If this conclusion is correct, one can predict with some assurance that 1950 will see the groundwood paper industry following about the same pattern as the rest of the white paper industry.

It is, of course, well known that as general business goes, so in general goes the paper business. The year 1950 should be a good business year. The first half certainly will be. There are deflationary influences, chief among which is foreign currency devaluation, the results of which have not yet become fully apparent or effective. There are also inflationary influences, chief among which is Government fiscal policy. It seems not unlikely that the two may just about balance each other and that 1950 may accordingly average out at about the same level of business activity as the last quarter of 1949. If it does, the paper industry, and the groundwood branch of it, will have a good, but not a spectacular year. The record high production of the paper industry as a whole in the last quarter of 1949 will probably not be maintained, since it appears to be out of line somewhat with general business activity. The groundwood paper record for the last quarter of 1949 seems to be more nearly in line with total business activity and might well be expected to be continued throughout 1950.

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The Consumption Trend in Paper and Board

By

DR. LOUIS T. STEVENSON

Economist, American Paper and Pulp Association

In a discussion of the long-term upward trend of per capita consumption of paper and board in last year's Convention Number of the *Paper Trade Journal*, the writer called attention to the "striking saw tooth movement" of per capita paper consumption. The 1948 apparent per capita consumption of 356.2 pounds, it now appears, was the top point of one of these saw teeth because 1949 apparent consumption at 331.1 pounds was down by about 25 pounds below the 1948 high.

Does this behavior invalidate the use of per capita paper consumption in analyzing the future prospects for the growth of the industry?

These intermediate fluctuations are to be expected and one should not be surprised when they occur. As shown in last year's article they coincide with the fluctuations of the business cycle; but the long-term upward trend continues. A glance at the accompanying chart shows this long-term trend line with the apparent per capita consumption fluctuating above and below it. Definite peaks show above the trend in 1920, 1929, 1937, 1941, and 1948. Equally definite low points are seen in 1921, 1932, 1938, and 1945. Each of these peaks and low points is a departure from the general upward trend. But the upward movement continues.

The drop in 1949 grew out of the accumulation of inventories which occurred in 1948. These inventory movements are not discernible in the apparent per capita consumption figure, which is computed by adding imports to production and then subtracting exports from this total, and dividing the result by the population.

It will be seen that if production is moving into inventories in the hands of merchants, converters and consumers instead of into consumption, this part of production will still be included in apparent per capita consumption. In other words, apparent per capita consumption does not equal per capita consumption. For that reason the term "new supply" is sometimes used for the figure presented.

Generally it has not been possible to evaluate these inventory changes, and they have been ignored as probably being negligible. The study of Basic Demand, published by the American Paper and Pulp Association, may now be used to approximate these inventory changes, but it will be used in this analysis merely to point out that the difference between 1948 and 1949 apparent per capita consumption included inventory building in 1948 which was not included in the 1949 figure.

Inventory building at the peak, and drawing down of inventories at the bottom of the movements is therefore a characteristic of apparent per capita consumption series. These movements over an extended period tend to cancel out in the long-term trend which may be used as a legitimate basis for judging the general drift of per capita consumption.

A projection of the trend line for short periods will indicate only the probable position of the trend line. It

U. S. PAPER PRODUCTION, IMPORTS, EXPORTS, AND CONSUMPTION

(Quantities in Tons of 2,000 Pounds)

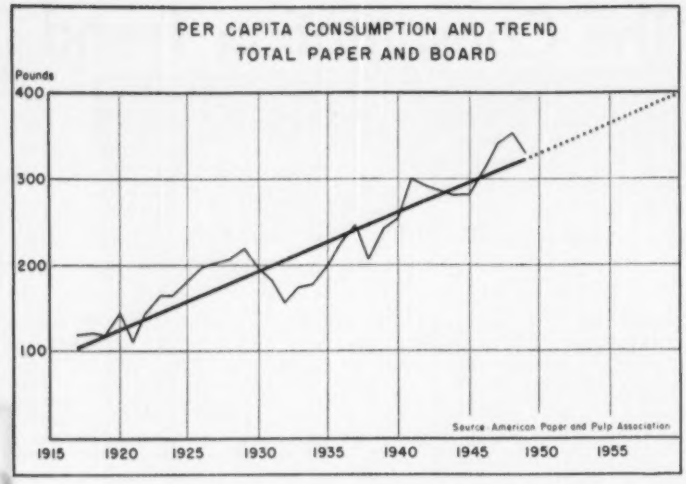
Total—All Grades

Year	Production	Imports**	Exports**	Consumption	
				Tons	Lbs./Capita
1899	2,167,593	....	....	2,167,593	57.9
1904	3,106,696	....	77,704	3,028,992	73.3
1909	4,121,495	55,962	74,764	4,102,693	90.5
1914	5,152,705	349,279	106,713	5,395,270	110.2
1917	5,803,808	524,267	274,246	6,053,829	118.5
1918	5,937,897	637,770	300,669	6,274,998	121.2
1919	5,966,076	707,548	420,540	6,253,084	119.1
1920	7,185,122	822,262	367,815	7,639,569	144.5
1921	5,333,397	860,730	166,986	6,027,141	111.4
1922	6,874,834	1,141,966	151,865	7,864,935	143.2
1923	7,870,756	1,468,478	145,646	9,193,588	164.8
1924	†7,929,985	1,500,433	149,541	9,280,827	164.0
1925	9,001,742	1,567,121	152,351	10,416,512	181.4
1926	†9,794,086	1,973,451	183,130	11,584,407	198.8
1927	10,002,070	2,107,344	184,226	11,925,188	201.8
1928	10,403,338	2,266,828	218,730	12,451,436	207.8
1929	11,140,235	2,533,603	262,383	13,411,455	220.3
1930	10,169,140	2,365,272	215,811	12,318,601	200.7
1931	9,381,840	2,136,079	170,891	11,347,028	183.0
1932	7,997,872	1,848,016	119,292	9,726,596	155.8
1933	9,190,017	1,852,420	126,854	10,915,583	173.8
1934	9,186,598	2,265,281	163,199	11,288,680	178.6
1935	10,479,095	2,456,998	178,370	12,757,723	200.5
1936	11,975,552	2,855,153	179,727	14,650,978	228.8
1937	12,837,003	3,412,409	221,419	16,027,993	248.8
1938	11,380,814	2,357,477	195,935	13,542,356	208.6
1939	13,509,642	2,687,484	248,569	15,948,557	243.7
1940	14,483,709	2,826,880	553,284	16,757,305	254.5
1941	17,762,365	3,123,490	464,389	20,421,466	306.6
1942	17,083,862	3,038,499	341,920	19,780,441	293.8
1943	17,035,688	2,720,906	319,922	19,436,672	284.8
1944	17,182,804	2,576,277	313,917	19,445,164	281.6
1945	17,370,965	2,753,211	458,689	19,665,487	281.7
1946	19,277,667	3,625,422	393,301	22,509,788	318.8
1947	21,114,860	4,120,917	474,094	24,760,823	343.8
1948	21,921,757	4,580,746	397,036	26,105,467	356.2
1949	†20,325,671	4,740,000	375,000	24,700,671	331.1

**Quantities estimated, wholly or in part, from values given. Imports and exports for various grades include 'paper products.'

†Estimated by the American Paper and Pulp Association.

Source: Bureau of the Census for Production and Department of Foreign and Domestic Commerce for Imports and Exports.



must be recognized that the series fluctuates about the trend line, and that in any one year per capita consumption will be above or below it,—seldom, if ever, right on it.

The three peaks, 1929, 1941, and 1948 are all about the same distance above the trend line, and may be taken as an approximation of the maximum deviation from the trend which may be expected.

If the trend line is projected to 1960 along the lines of these considerations, the following figures are arrived at:

	Maximum	Mean	Minimum
Pounds per Capita ..	423.4	398.3	373.2
Total Tons (Millions)	33.9	31.8	29.9

The actual experience in 1960 should be within this range, and the mean of 31.8 million tons would seem to be reasonable for future planning purposes, always recalling that planning should be flexible enough to adjust to the maximum and minimum limits when necessary.

Newsprint Paper in 1949

J. J. ZIMA

Statistician, Newsprint Service Bureau

The quite generally forecast recession in business activity in the United States developed as expected by many during the earlier months of 1949 but did not attain really serious proportions at that time. However, a reversal of the trend occurred in August only to be interrupted by the strike-induced decline to the year's low point in October and which was succeeded by a very pronounced recovery thereafter. Thus the overall record of the year, while somewhat below that of 1948 was nevertheless very good and particularly so in comparison with post-war business declines of the past.

The vicissitudes of the United States paper and paperboard industry last year in general paralleled the trend of the over-all economy. Starting from a fairly high level, output went into a decline which was not arrested until August, with September showing further improvement while production in the final three months exceeded that of any quarter on record. Preliminary data indicate production of about 20,000,000 tons of paper and board in the United States in 1949 while it has been stated that Canadian output last year approximated the somewhat more than 6,000,000 tons turned out in 1948. Adding thereto the production in Newfoundland, continental output (excluding Mexico) was in the neighborhood of 26,450,000 tons which was about 7 per cent less than the all-time high of 1948 and 3 per cent under the 1947 total.

In spite of further contraction of overseas markets for North American newsprint and in contrast to the generally lower level of business activity in the United States, consumption of newsprint paper in this country was of such proportions that an all-time record productive effort by the continental industry was required to achieve a balance between over-all demand and supply.

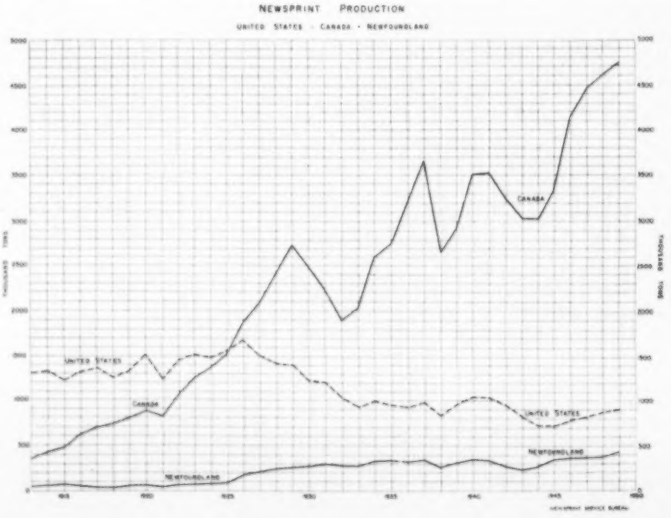
Supply

Production

Representing the fourth in a series of consecutive record years, North American newsprint paper output in 1949 totaled 6,076,000 tons. This was an increase of 226,000 tons or nearly 4 per cent over production in 1948 while that of 1946—the first of the current sequence of peak output years—was exceeded by almost 800,000 tons and then to some extent artificially stimulated pre-war production record in 1937 was surpassed by 1,132,000 tons.

The 1949 continental newsprint production total was made up of 4,732,000 tons or 78 per cent in Canada, 900,000 tons or nearly 15 per cent in the United States and 444,000 tons or slightly more than 7 per cent in Newfoundland which as of April 1st of that year became the tenth province of Canada.

The table below shows the 25 year



4+8 Works Here at the Lake Charles, La. plant of the Mathieson Chemical Corp.

4+8 Works Here at the Kodak Park plant of Eastman Kodak Co., Rochester, N.Y.

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4+8 Works Here at the Chillicothe, Ohio Mill of the Mead Corporation.

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P-18

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NORTH AMERICAN NEWSPRINT PRODUCTION

(short tons)

Year	Total	% Produced in		
		Canada	United States	Newfoundland
1925	3,149,000	48.3	48.6	3.1
1926	3,752,000	50.2	44.9	4.9
1927	3,776,000	55.3	39.3	5.4
1928	4,030,000	59.1	35.2	5.7
1929	4,377,000	62.3	31.8	5.9
1930	4,073,000	61.5	31.5	7.0
1931	3,673,000	60.5	31.5	8.0
1932	3,195,000	59.9	31.6	8.5
1933	3,234,000	62.4	29.2	8.4
1934	3,876,000	67.0	24.8	8.2
1935	4,001,000	68.8	22.8	8.4
1936	4,458,000	72.0	20.7	7.3
1937	4,944,000	73.8	19.1	7.1
1938	3,713,000	70.7	22.1	7.2
1939	4,113,000	69.8	22.8	7.4
1940	4,783,000	71.5	21.2	7.3
1941	4,786,000	71.6	21.2	7.2
1942	4,407,000	72.1	21.6	6.3
1943	4,024,000	74.1	20.0	5.9
1944	3,985,000	75.1	18.1	6.8
1945	4,316,000	75.5	16.8	7.7
1946	5,277,000	78.5	14.6	6.9
1947	5,646,000	78.8	14.6	6.6
1948	5,850,000	78.7	14.8	6.5
1949	6,076,000	77.9	14.8	7.3

NEWSPRINT EXPORTS FROM CANADA AND NEWFOUNDLAND

(short tons)

Year	Exported to			% Exported to	
	U.S.A.	Overseas	Total	U.S.A.	Overseas
1949	4,354,000	444,000	4,798,000	91	9
1948	4,164,000	539,000	4,703,000	89	11
1947	3,887,000	714,000	4,601,000	84	16
1946	3,531,000	686,000	4,217,000	84	16
1945	2,656,000	719,000	3,375,000	79	21
1944	2,509,000	567,000	3,076,000	82	18
1943	2,676,000	397,000	3,073,000	87	13
1942	2,988,000	296,000	3,284,000	91	9
1941	2,979,000	629,000	3,608,000	83	17
1940	2,733,000	877,000	3,610,000	76	24
1939	2,294,000	628,000	2,922,000	79	21
1938	1,997,000	692,000	2,689,000	74	26
1937	3,034,000	797,000	3,831,000	79	21
1936	2,515,000	821,000	3,336,000	75	25
1935	2,165,000	724,000	2,889,000	75	25

CONSUMPTION OF NEWSPRINT PAPER IN THE UNITED STATES

1924-1949

Year	Tons	Pounds Per Capita	Index Numbers 1929 = 100	
			Tons	Pounds Per Capita
1924	2,737,000	48.4	72	78
1925	2,934,000	51.2	78	82
1926	3,307,000	56.8	87	91
1927	3,445,000	58.2	91	94
1928	3,515,000	58.7	93	94
1929	3,780,000	62.2	100	100
1930	3,563,000	57.9	94	93
1931	3,245,000	52.3	86	84
1932	2,840,000	45.4	75	73
1933	2,690,000	42.8	71	69
1934	3,058,000	48.3	81	78
1935	3,300,000	51.7	87	83
1936	3,650,000	56.8	97	91
1937	3,830,000	59.3	101	95
1938	3,458,000	53.1	91	85
1939	3,550,000	54.1	94	87
1940	3,730,000	56.2	99	90
1941	3,930,000	58.7	104	94
1942	3,800,000	56.4	101	91
1943	3,650,000	53.5	97	86
1944	3,250,000	47.1	86	76
1945	3,480,000	49.8	92	80
1946	4,296,000	60.8	114	98
1947	4,753,000	66.3	126	107
1948	5,141,000	70.4	136	113
1949	5,259,000	74.1	146	119

North American production record and the percentages of contribution thereto by the major producing countries. Mexico, manufacturing no newsprint since 1935 and an unimportant factor prior to that year is excluded.

The table (left) indicates the drastic decline in relative importance of the United States as a producer of newsprint paper. Twenty-five years ago its output representing nearly 49 per cent of the North American total was by a very slight margin larger than that of Canada while in 1949 its proportion of a continental aggregate more than 90 per cent greater than in 1925 had dropped to a little less than 15 per cent.

Canadian production in 1949 was nearly 132,000 tons or 3 per cent in excess of the previous high record made in 1948 and 589,000 tons greater than in 1946. The 62,000 tons or 16 per cent increase over the preceding year in Newfoundland's output also resulted in a new all-time peak. United States production in 1949 recorded a gain of 32,000 tons or approximately 4 per cent over 1948 and also exceeded that of any year since 1942 while the coming into production of the new mill at Coosa Pines, Alabama could result in increasing this country's output of newsprint to the 1,000,000 ton range in 1950. Taking production a quarter of a century ago as equalling 100 the 1949 indexes stand at 311 for Canada, 458 for Newfoundland and 59 for the United States.

In 1949 the newsprint paper industry as a whole operated at a rate in excess of estimated theoretical capacity. This was the third successive year wherein the ratio of operations to the constantly increasing theoretical capacity of the industry exceeded 100 per cent and was in marked contrast to the low levels prevailing in the years 1931-1933 when the average was only about 57 per cent.

Shipments

Of the newsprint tonnage produced on this continent in 1949 all but 14,000 tons went into the channels of distribution. Total shipments from the mills amounted to 6,062,000 tons and were 228,000 tons or 4 per cent greater than in 1948. Shipments made by Canadian producers totaled 4,737,000 tons and exceeded production by almost 5,000 tons while those of the United States manufacturers were 898,000 tons or 2,000 tons less than the quantity produced and the 427,000 ton movement from Newfoundland mills did not equal their output by 17,000 tons.

Tonnage held by all producers at the end of December last year aggregated 132,000 tons and was 12 per cent greater than mill stocks at the end of 1948 and 30 per cent more than in 1947. However, the quantity was smaller than on the same date in 1946 and 1945 and about 30 per cent less than the 1935-1939 average.

Here is how modern paper mill operators are making vital savings with

BECKMAN ph CONTROL!

THE BECKMAN MODEL H-2 pH METER

is one of a complete range of Beckman pH Meters available for every type of application*. The H-2 is particularly recommended for applications where high accuracy and simple operation—combined with the convenience and low cost of 115-v. AC operation—are desired.

It provides instant and direct pH readings, and a simple, built-in dial permits quick, convenient temperature compensation over the entire range of 0° to 100°C (32° to 212° F.). High reading accuracy is assured by wide-spread dual range scale that reads from 0 to 8 pH or from 6 to 14 pH at the turn of a switch. Same switch also provides instant millivolt readings from 0 to ±800 mv and from ±600 to ±1400 mv for titrations and oxidation-reduction measurements.

Built-in electrode support and compact case design save valuable space and permit easy portability to various plant locations.

Particularly important is the wide range of factory-sealed, maintenance-free Beckman Glass Electrodes available for use with this instrument . . . electrodes that are virtually unbreakable . . . that cover extreme temperature ranges from below freezing to above boiling . . . that have an unprecedented pH range with negligible errors . . . that are abrasion-resistant and chemically durable to a degree never before thought possible in glass electrodes.

*In addition to the H-2 Meter, other Beckman pH equipment includes completely automatic pH indication and control instruments for large-scale process applications . . . battery-operated models for complete portability in plant and field use . . . and a laboratory type instrument that features maximum versatility and accuracy for research and laboratory applications.

Throughout the pulp and paper mill industry, profit-minded operators are stepping up plant efficiency, reducing waste and cutting costly maintenance by Beckman-controlling the pH of an increasing variety of paper mill operations. For example . . .

- *In both hard and soft water areas Beckman pH control is used to insure more uniform pre-conditioning of the plant water and substantial savings in chemicals.*
- *Many kraft mills insure a cleaner pulp by checking the efficiency of the washers with Beckman pH Control. Because Beckman electrodes are exceptionally rugged and abrasion-resistant, they can be placed directly in the flow of stock to the knotters.*
- *By controlling the pH of the furnish or white water, proper freeness is assured at lowest chemical cost with greater uniformity of operation and minimum corrosion of costly wire.*
- *In the making of sized sheet and paper board, the set of the size is also critically dependent upon accurate pH control. A better product results—at lower chemical costs.*
- *Where the sheet is colored, close pH control is even more important, because the uniformity of color and permanency in the finished product—as well as the set, freeness and wire corrosion—are all dependent upon the accuracy of pH control during processing.*
- *Printing qualities of the finished paper—its ability to take ink, its whiteness, its strength and its color stability—are also closely dependent upon accurate pH control.*
- *These and many other important paper mill applications are outlined in a helpful pulp and paper mill bulletin available on request. Write for your free copy today!*

WHY BECKMAN pH CONTROL? Leading paper plants prefer Beckman pH control because only Beckman provides the rugged, abrasion-resisting, high pH type of glass electrodes necessary for sustained accuracy and long life in modern paper mill operations. And, as outlined at left, Beckman provides the industry's most complete selection of pH equipment.

Let your nearest Beckman instrument dealer point out the many important advantages found exclusively in Beckman pH equipment. Or write direct.

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BECKMAN INSTRUMENTS
control modern industries

Beckman Instruments: pH Meters and Electrodes — Spectrophotometers — Radioactivity Meters — Special Instruments

Exports

Canada and Newfoundland

Official reports emanating from the Dominion Bureau of Statistics indicate the exportation of approximately 4,705,000 tons of newsprint from Canada in 1949. Since this total includes exports from Newfoundland from the time the former British Colony became Canada's newest province it is necessary to add thereto the shipments made by the mills there during the first quarter of last year in order to complete the export picture. Thus we find that 4,798,000 tons of newsprint paper went to destinations beyond the borders of Canada and Newfoundland in 1949.

The second table on page 74 covering the preceding 15 year period, is based on officially released export data for Canada including Newfoundland since its amalgamation and mill reports of shipments from the latter prior to that time and shows the distribution thereof between the United States and other markets.

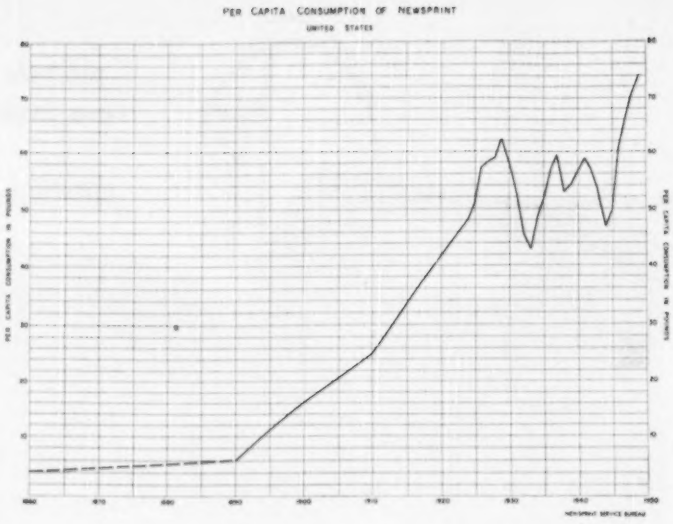
Based on these figures the record high exports from Canada and Newfoundland in 1949 were 95,000 tons or 2 per cent greater than in 1948 and 1,725,000 tons above the wartime low of 1943. Of the total tonnage exported, 4,354,000 tons or 91 per cent was shipped to the United States with the balance of 444,000 tons going to destinations elsewhere throughout the world. The increase over 1948 in exports to the United States amounted to 190,000 tons while the quantity going to overseas markets—reflecting exchange difficulties in various countries—declined by 95,000 tons from the preceding year and in percentage of total was, except for 1942, smaller than at any time during the period covered.

United States

According to the Department of Commerce nearly 39,000 tons of domestically produced newsprint were exported from the United States in 1949. Exports from this country had remained stationary at 28,000 tons during the years 1946-1948 so that the increase last year was rather unanticipated and in view of the decline in shipments from Canada and Newfoundland to overseas destinations is somewhat of a paradox.

The most important overseas markets for United States newsprint in 1949 were the Philippines to which went 15,000 tons or 39 percent of the total, Mexico taking 12,000 tons, and South and Central America the destinations for more than 4,000 tons and somewhat less than 2,000 tons respectively. Compared with 1948, there were increases of 8,000 tons in shipments to the Philippines, 3,000 tons to South America and 1,000 tons to Mexico.

The North American newsprint industry as a unit last year exported 483,000 tons of paper to other parts of the world or 84,000 tons less than in 1948 and except for the war depressed shipments in 1943 and 1942 they were below those of any year since 1933.


PER CAPITA CONSUMPTION OF NEWSPRINT
UNITED STATES
PER CAPITA CONSUMPTION IN POUNDS
PER CAPITA CONSUMPTION IN POUNDS
NEWSPRINT SERVICE BUREAU

Imports

According to Department of Commerce reports only just recently released from Washington, imports of newsprint paper into the United States in 1949 from all sources totaled 4,637,000 tons and amounted to more than 5 times the domestic production. The hitherto peak imports of 1948 were exceeded by 244,000 tons or 5½ per cent while the increase over 1945 imports was not far from 2,000,000 tons. Imports from Canada in 1949 were at a record high level of 4,111,000 tons and the 271,000 tons imported from Newfoundland also represented a new high from that source while the 255,000 tons of European newsprint that entered this country did not equal 1948 imports by nearly 13,000 tons.

Imports from Europe in the first quarter of 1949 were at a rate which had it been maintained throughout the year would have surpassed the 1939 peak by an appreciable margin. However, the 30,000 tons a month rate attained in the first three months declined to a monthly average of only 18,000 tons in the last three quarters of the year. Of the overseas total, nearly 60 per cent or 151,000 tons was supplied by Finland while Sweden contributed 37,000 tons, the United Kingdom 35,000 tons and Norway 30,000 tons. The balance was made up of small quantities from France, Austria and the Netherlands. Compared with 1948, the largest quantitative increase —almost 32,000 tons—occurred in imports from the United Kingdom while those from Finland and Norway were greater by 20,000 tons and 2,000 tons respectively. On the other hand, there were decreases of 33,000 tons in imports from Sweden and of 26,000 tons from France. In view of announced commitments for the current year with respect to domestic and other markets —not including the United States—it is possible that a smaller quantity of European newsprint will be available for export to this country in 1950.

Stocks

At the end of 1949 a rather healthy situation existed insofar as overall newsprint paper inventories are concerned. As noted heretofore stocks held by all North American producers at the close of last year amounted to 132,000 tons which was a low figure in relation to the volume of production during the year. During the first eleven months of 1949 the A.N.P.A. publishers reported stocks on hand or in transit in considerably greater volume than during the corresponding months of the preceding year with the largest increase — 125,000 tons — recorded at the end of February and March. By the end of November, however, their stocks had been drawn on to such an extent that the increase over 1948 at that time amounted to only 29,000 tons, while during December a further reduction took place so that the end-of-year figure of 446,000 tons was 12,000 tons below that on December 31, 1948.

Combined stocks of these two groups at the end of 1949 amounted to 578,000 tons and were but 2,000 tons greater than at the close of the preceding year. It seems quite reasonable to assume that newsprint consumers other than those reporting to the A.N.P.A. also reduced their inventories so that a small decline in overall stocks would appear to be indicated.

Consumption

Despite less pronounced upward trends than existed in 1948 in most major factors influencing the use of newsprint paper, consumption thereof in the United States in 1949—unaffected by inadequacy of supply for the first time since 1942—continued to expand with both tonnage and percentage increases approximating those of the preceding year. As has been the case since the end of the war consumption in this country in 1949 was considerably greater than that in the rest of the world combined.

The publishers reporting to the A.N.P.A. used 4,257,000 tons of newsprint during 1949—an increase of 6 per cent over the quantity used in 1948 and 19 per cent more than in 1947 while the war-time low consumption of 1944 was exceeded by 1,906,000 tons or 81 per cent.

It is presently estimated that the A.N.P.A. publishers used 77 per cent of the newsprint paper consumed in the United States in 1949. On the basis of this assumption the indicated use by all consumers amounted to 5,529,000 tons and exceeded the hitherto all-time high of 1948 by 388,000 tons or nearly 8 per cent. Compared to the average prewar consumption level during 1937-1941 the increase in 1949 amounted to 1,829,000 tons or nearly 50 per cent. The 8 per cent rise in total consumption in 1949 compared with the 6 per cent increment in use by the A.N.P.A. publishers indicates a greater relative increase in usage of newsprint by consumers other than the large metropolitan press and constitutes a reversal of the postwar trend.

Estimated newsprint paper consumption in the United States and pounds used per capita based on Census Bureau population estimates as of July 1, since 1924 are shown in third table on page 74.

The 1949 per capita use of slightly more than 74 pounds of newsprint paper was not quite 4 pounds greater than in 1948 and nearly 8 pounds more than in 1947, while compared with 1946 the increase was in excess of 13 pounds. The figures in the two right hand columns of the table above show that while the consumption in tons index had exceeded that of the base period in four different years prior to 1947 it was not until then that the pounds per capita index rose above 1929.

The apparent per capita consumption of paper and paperboard in the United States in 1949 is estimated to have been 331 pounds of which newsprint comprised approximately 22 per cent. It has been estimated by the American Paper and Pulp Association, based on long-time trends in per capita consumption and Bureau of Census forecasts of population, that by 1965 more than 35,000,000 tons of paper and paperboard will be consumed in this country. Should this prove to be so—the presence of a considerable element of uncertainty is conceded—and newsprint paper represent the same proportion of the total as in 1949—also highly conjectural—a more than 7½ million ton use in that year is indicated.

Newspaper Sizes

The postwar expansion in sizes of United States newspapers continued in 1949 although at a somewhat slower rate than in the three preceding years. Also for the first time since the war the increase in sizes was greater than would seem to be warranted by the increase in newspaper advertising linage. The foregoing appears to indicate that perhaps due to more spirited competition among newspapers themselves and also from other media, publishers are finding it necessary to make their papers more attractive and interesting to their readers and consequently are devoting more space to editorial matter.

Leading Sunday newspapers averaged 107 pages in 1949 and were 5 pages larger than the average in 1948 and 13 pages higher than in 1947. The sustained and very sharp rise since the end of the war to date has brought them back to the 1927 level but still below the average in 1926 and 1925.

Ever since 1929 the 32 page record average then attained by the leading daily newspapers had remained unchallenged and unequalled until 1948 but was finally exceeded by the 34 page average of last year.

Newspaper Circulations

Total newspaper circulations in the United States rose slightly above the previous all-time high peak of 1948. They did not, however, keep pace with the increase in population. Reportedly there has been a leveling off and in some instances a decline in large city circulations. For example, New York City newspaper circulations — both daily and Sunday—in the six months ending September 30, 1949 were approximately 2 per cent below those of the corresponding period in 1948.

The average net paid circulations of English-language newspapers in the United States during the year ended September 30, 1949, as tabulated by *Editor & Publisher*, totaled 52,846,000 copies for the morning and evening dailies combined and 46,399,000 copies for Sunday papers. Compared with 1948, morning issues of the weekday papers showed a decrease of 77,000 copies or 0.4 per cent while, on the other hand, evening paper circulations were larger by 638,000 copies or 2.0 per cent so that the net increase for dailies in the aggregate amounted to 561,000 copies or 1.1 per cent. Sunday circulations, which in recent years had risen at a greater rate than the dailies, did not fare as well in 1949 with an increase of only 91,000 copies or 0.2 per cent over 1948.

There was very little change in the number of English-language newspapers published in 1949 in comparison with the preceding year. It is reported that 329 morning and 1451 evening papers were published last year which was an increase of 1 in the former category and a decrease of 2 in the latter. The 546 Sunday newspapers issued in 1949 represented an apparent gain of 16 over 1948. This gain, however, is somewhat illusory since included therein are a number of papers which discontinued publication of a Saturday or Monday issue and substituted therefor a Sunday edition.

Advertising

Although final data are as yet unavailable indications are that 1949 saw the attainment of a new high mark in total advertising expenditures in the neighborhood of 5 billion dollars. However, despite this large dollar volume it has been stated that in relation to national income and the proportion thereof expended on advertising during the years 1900-1930 last year's total should have been considerably greater. The percentage of national income devoted to advertising in the earlier period approximated 3 per cent while currently this figure is about 2 per cent.

Newspapers

The moderate increase in newspaper advertising in 1949 compared with the preceding year while its two major competitors in this field — magazines and radio—registered decreases is evidence that the postwar trend toward greater use of newspapers for this purpose is still continuing. The ending of the newsprint shortage enabled newspapers, for the first time since 1942, to accept all the advertising offered although it has been reported that the volume at times was such as to tax the mechanical facilities of some papers.

Data compiled by Media Records covering newspapers in 52 major cities of the United States indicate that in 1949 the space therein devoted to advertising was equivalent to 2,301,968,000 agate lines. This was an increase of 38,522,000 lines over the hitherto record volume in 1948 and 293,432,000 lines or 15 per cent more than in 1947. The increase over 1948 in total newspaper advertising linage was not, however, equally shared in by all classifications. In terms of percentages, automotive advertising led all other types with a gain of 27.5 per cent while general was up by 4.8 per cent and retail by 3.0 per cent. On the other hand, a decrease of 7.4 per cent was recorded in classified advertising and one of 1.7 per cent in financial.

Despite the existence of a sellers' market in the automotive field since the end of the war this linage classification has increased impressively in that time and with the industry entering into a period of greatly intensified competition it has been reported that a total of $400,000,000 will be spent to advertise new and used cars in 1950. It has been estimated that about 70

per cent of the total will go into newspapers.

Whatever effect the development of television may have on newspaper adtising in the future, its contribution to 1949 linage volume was considerable. According to Media Records, television set retailers in 34 basic television markets paid for a total of 30,315,000 lines of advertising in newspapers last year or more than 3 times the volume of radio set advertising in those cities.

A preliminary estimate by the Bureau of Advertising of the American Newspaper Publishers Association places total 1949 advertising revenues of newspapers at $1,697,000,000 of which nearly $429,000,000 represented national advertising.

Periodicals

Although at no time in 1949 had magazine advertising linage equalled 1948 volume its course in general followed that of newspaper advertising since the record in the first half of the year was comparatively better than in the last six months. Periodical advertising linage in 1949 as reported by *Printers' Ink* was 8 percent below that of the previous year and 13 percent under the 1947 volume. Linage in the first half of the year was only 5 percent less than in the same period of 1948 while from then on the decreases had averaged about 10 percent.

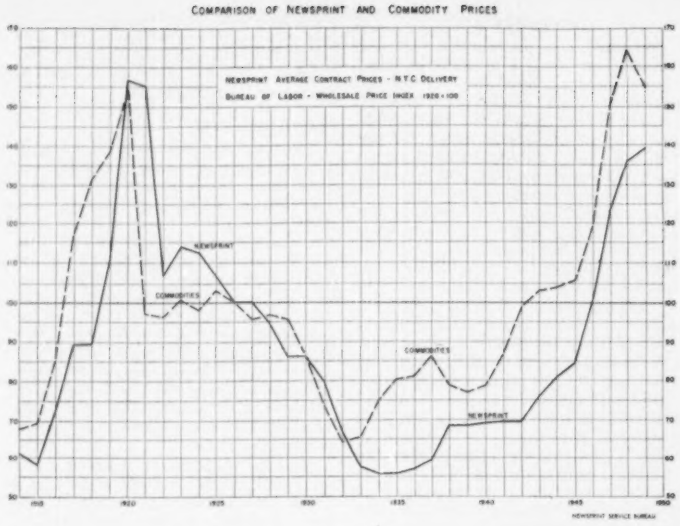
The Publishers Information Bureau recently released 1949 advertising revenue figures for 103 general magazines, farm papers and newspaper magazine sections. This compilation indicates that total dollar volume of these publications amounted to about $493,000,000 which was 3 percent less than the $506,000,000 total recorded in 1948. Analysis of the figures discloses that compared with 1948, volume in general and farm magazines declined by 4 percent and 1 percent respectively while that in newspaper magazine sections was 9 percent greater.

Radio

Data covering advertisers' expenditures via radio in 1949 are at present incomplete. Of the four major networks, the only report thus far noted is that of the American Broadcasting Company which states that gross radio billings last year amounted to $42,342,000 which was almost 4½ percent less than in 1948.

Gross time sales of the four national chains in the first nine months of 1949 are estimated to have been 4 percent less than in the same period of the previous year but slightly greater than in 1947. At the end of the first half of 1949 the drop in billings amounted to only a little more than 1 percent but the greater than usual proportions of the seasonal summer slump accentuated the decline.

While the foregoing would appear to indicate that the use of radio as an advertising medium had declined somewhat from 1948 levels the record will not be complete until information regarding other segments of the industry — which in total outweigh in importance the national chains—is available. It is possible that when the picture is complete the overall record will show some improvement over the preceding year. In any event, the dire predictions concerning the future of radio made a year ago have not yet been borne out and it remains a highly important and vigorous factor in the field of advertising.



Television

Expansion and development of television continued in 1949 although its growth was to some extent hampered and restricted pending determination of official policy on matters of vital importance to the industry, i.e. removal of the present ban on the licensing of additional stations, increasing the number of available channels through expansion into the ultra high frequency field, and the adoption of a color system.

It is reported that between January 1, 1949, and the same date a year later 42 new stations came into operation making a total of 98 located in 58 cities while 12 construction permits issued by the Federal Communications Commission prior to its decision to temporarily cease additional authorizations are still outstanding. In addition a total of 351 applications are on file with the Commission. Production of television receivers in 1949 amounted to about 2,800,000 or 800,000 more than the industry forecast made a year ago. By the end of 1949 there reportedly were 3,900,000 homes equipped with receivers of which more than 60 percent were concentrated in the six cities of New York, Chicago, Philadelphia, Los Angeles, Boston and Detroit. It is also reported that advertisers via television at the end of last year numbered 2,300 compared with only 933 a year earlier.

Outlook

On the assumption that past experience in similar circumstances is a valid criterion, it is the opinion of some observers that the unanimity prevailing among almost all business analysts and economists in forecasting good business in the United States during the first half of 1950, justified acceptance thereof subject to some reservations.

Thus far in 1950, however, predictions of high-level overall business activity have proved to be correct. Should the uncertain factor due to the deteriorating coal situation be eliminated before it can cause serious damage to the general economy — toward which objective official efforts at long last are being directed — maintenance at this high rate in the near future would appear to be indicated and should be reflected in a continuing strong demand for newsprint paper.

Rollhaus of Wallerstein's Honored

NEW YORK—P. Edward Rollhaus of Wallerstein Co., Inc., was awarded a scroll in appreciation for his long and faithful service to the Philadelphia Section of the American Chemical Society. At a banquet commemorating the 50th anniversary of the founding of the Section, Mr. Rollhaus was selected and honored as one of those "members whose services had contributed most to the Section's growth in its 50 year history."

Hunter Named Trade Assn. Chairman

OGDENSBURG, N. Y.—Donald Hunter, superintendent of the Ogdensburg Div. of the Diamond Match Co., has been appointed chairman of the newly-formed Ogdensburg Ass'n. of Trade and Industry.

THE MEAD SALES COMPANY
230 PARK AVENUE, NEW YORK 17, N. Y.
20 NORTH WACKER DRIVE, CHICAGO 6, ILL.

MEAD
pulp

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CHEMICAL AND MECHANICAL WOOD PULP

To prove how fast he was on his feet, Paul Bunyan would blow out the bunkhouse lantern and get to his own shack before the light faded!

A reproduction of this incident from the fabulous life of Paul Bunyan—the fiftieth of a series—will be sent on request. It will contain no advertising.

The Multiwall Paper Shipping Sack Industry

FRANK POCTA

Secretary, Paper Shipping Sack Manufacturers' Association

Multiwalls—the stalwart sons of the kraft industry—last year delivered *and protected* more than 65 millions of tons of U. S. products for domestic and export consumption. Of this total 27.59 percent were agricultural commodities and foods, 29.19 percent were building materials, 33.47 percent were chemicals, 7.26 percent were minerals and 2.49 percent were miscellaneous.

While the total volume of multiwall shipping sack units produced in the year 1949 was about 12.25 percent less than the volume produced in the year 1948, and the total tonnage cut-up of all grades of shipping sack paper was 15.25 percent less, this does not signify that there were less multiwalls used by U. S. industry in the year 1949. As a matter of fact, in domestic and export commerce there were more multiwall sacks used for shipments of U. S. products in 1949 than during any previous year in the history of the industry. Packers and shippers during 1948 had built up heavy inventories of multiwall sacks. These inventories were reduced during the last quarter of the year 1948 and well on into the year 1949. The millions of multiwall bags used for shipments of products in 1949 which were drawn against 1948 inventories, plus 1949 production, add up to over two billions of multiwalls in service last year.

Quality Products Protection

Multiwall shipping sacks are custom made to suit every individual packer's specific requirements for adequate strength and *quality-product protection*.

There are at least 450 different types of commodities for which suitable multiwall constructions have been developed since 1925. This development has required years of research-studies of product values including, among other factors, hygroscopic properties, chemical and physical characteristics of commodities to be protected, shipping conditions, warehousing practices, the effects of atmospheric changes, and exposure to elements.

Before adequate multiwall protection for a packer's product is determined, every detail involved from the time of packaging to the time of delivery and consumption requires thorough analysis by the multiwall bag manufacturer and his customer. Multiwalls are built to protect each product from particular types of hazards that may be encountered in storage and in transit. Hazards to perfect product quality maintenance vary with the different types of commodities shipped.

For example, consider the multi-ply protection given 100 pound sacks of baker's flour and refined sugar against contamination and infestation from without, and you will understand why multiwalls are popular with the baking and confection industries. Consider also the protection offered such hygroscopic chemicals as calcium chloride, quick lime and triple superphosphate stored and shipped in millions of multiwall sacks each year. Then, too, consider the multiwalls that deliver 100 pound sacks of shredded coconut—with coconut flavor sealed in and arriving as sweet as a nut—all the way from the Philippines to Hoboken. And consider the asphalt and resins poured while in molten state into multiwalls constructed with specially coated inner plies to prevent the material from sticking to the kraft. Also, multiwalls developed to successfully withstand 24 hours submersion in water and which assured safe delivery of strategic World War II commodities needed for combat service in the far corners of the world.

The few facts preceding are mentioned for the purpose of emphasizing the extensive versatility of multiwall construction. The range of protection offered by multiwalls for hundreds of different types of commodities is as endless as the extent to which the American paper industry's inventive genius can produce shipping sack kraft —natural, and treated in various ways to provide even greater protection for commodities currently packed and for other commodities to be packed and shipped in the future.

Occasionally I have heard representatives of industries manufacturing competitive types of shipping containers, refer to multiwall bags as "Substitute Containers." This, to say the least, is a base misstatement. Multiwalls are not substitute for any other type of container. Multiwalls are an American original—the genuine article. They can offer a product the *protection* of six plies or more of strong shipping sack kraft, treated or untreated—the specific kind of *protection* a packer needs to guarantee that his product will reach the consumer in perfect condition, uncontaminated, and of the same high standard of quality he maintains in his plant production.

Modern packers and shippers do not agree that the types of containers that were considered good enough by their grandfathers are good enough today. They demand more than just delivery of their product. They insist on delivery plus *protection*. And safe delivery plus *quality-product protection* is the strong suit of multiwall shipping sacks.

Expanding Production

In the year 1945 there were 34 plants in the United States producing multiwall shipping sacks. Today there are 46.

This expanded production facility calls for accelerated programs of research by all multiwall bag manufacturers in the development of new markets. New markets will be developed by careful attention to highest quality standards of material and workmanship.

The Technical Committee of the Paper Shipping Sack Manufacturers' Association has for years aroused and encouraged the research consciousness of members of this association. Our industry will advance in greatness to that degree that each and every manufacturer of multiwall shipping sacks strives to achieve even higher records of strength performance and protection for U. S. products in domestic and export commerce.

With "Quality Product Protection" being our principal aim in service, it cannot help but follow that our industry shall be called upon for an increasing volume of multiwall paper shipping sacks during 1950.

Which Way Scandinavia?

JAMES DONALDSON

President, Stora Kopparberg Corp.

The United States consumers of market pulp, the integrated mills, as well as North American producers of market pulp want to know the answer to the question "Which way Scandinavia on your export of woodpulp?" The reason this question is being advanced is because there have been coming out of Scandinavia many statements along the lines that their principal interest is now directed towards the development of their other markets. It appears that a main crossroad point has been reached.

There are a number of contributing causes that have brought us to this main crossroad point. Since the war the Scandinavian producers have been subjected to various governmental controls over their exports. Trade treaties arranged by their respective governments affected the normal channeling of certain of their export trade on woodpulp to various countries. The Swedish government control of export prices set back exports to the United States as long as it lasted. Our own O.P.A., in denying Scandinavian sellers the freedom of an unrestricted sale to this market, played a part in rechanneling tonnage of Scandinavian pulp that would have otherwise come to this market. Following the war, the heavy world demand for dissolving pulp also induced a number of Scandinavian pulp producers to turn over part or all of their production from paper-making grades. Pulp consumers in the United States, fearful of the European situation, also avoided an early return to their dependency on imported pulp and, as a result, only sought their extra operating requirements during a period when pulp was short of demand. This was however partly due to the great difference in price for North American pulp versus the high world market prices Scandinavian producers could obtain. Despite the foregoing reasons, all of which had their effect, Scandinavian sellers, amazed at the tremendous growth of the North American production of pulp and paper since prewar years, fell prey to a misguided fear complex in believing that the United States industry had become more or less self-sustaining, or soon would be, and that, as a result, a brighter future for their exports was to be found in furthering the development of their other markets.

It is therefore important and urgent that a better and truer analysis of the American market and its future requirements be realized by our friends in Scandinavia. If early action is not taken to state position in a clear and concise way, irreparable damage will follow to both trade and political interests.

If Scandinavia is truly interested in restoring a steady flow of a reasonable percentage of its production to the United States market, it will be welcomed by all groups within the North American pulp and paper industry. The better qualities of Scandinavian pulp will always be needed and appreciated in this market because of our higher standards and specifications in paper-making, versus other markets. Many specialty and technical papers normal to our peacetime economy are actually dependent on our imported pulp. All the American consumer looks for is a constant, dependable supply year in and out at prices reasonably competitive with North American conditions. This market needs and can easily absorb of various qualities and grades some 450,000 to 500,000 tons from Sweden, 175,000 to 200,000 tons from Finland, and 25,000 to 30,000 tons from Norway.

Certainly the American pulp and paper industry has experienced an amazing growth since 1940. But too often one forgets that our population has likewise increased by about 19,000,000 since 1940, and is increasing at the rate of 1,000 a year. Consumption of paper and paperboard products per capita has also grown from about 176 pounds before the war to 330 pounds in 1948. Our really big concern is: Can our forests support our ever-growing needs?

If Scandinavia does not intend to send a sufficient supply of pulp regularly to this market, but only wishes to place here varied quantities from year to year when it is expedient to do so, then American industry wants to prepare to take care of its growing needs. That is why the question uppermost in the minds of the leaders in American industry is "Which way Scandinavia?"

Buyer and Seller Cooperation Needed

The issue is not, however, one-sided. If Scandinavia comes through with offerings of satisfactory tonnages for a regular year-in-and-out supply, American buyers must completely drop any prejudices they developed during the postwar years when all of Scandinavia was operating under very difficult conditions as compared to their normal economy. American buyers must also avoid the position of only purchasing for their sixth or seventh day operation when expedient to do so, and cut in the Scandinavian seller fairly on a reasonable share of their normal year's consumption. Only a willingness on the part of both buyer and seller to cooperate on a two-way basis will bring the type of results needed today in international trade.

In 1949, imports from Scandinavia hit a new low in tonnage and far below prewar years. Because of strong demand throughout world markets during 1948, prices on Scandinavian pulp moved to levels far above the prices maintained by North American producers. As a consequence American buyers were forced to contract to the maximum degree possible within North America. Scandinavian pulp was only purchased to care for the extra needs that occurred when operations reached a basis of six to seven days a week.

In the second quarter of 1949, the seller's market which had lasted for over three years came to an abrupt end as a short, but nevertheless drastic, period of readjustment set in and forced the liquidation of inventories by industry. As this liquidation of inventories in the hands of consumers

ran its course during the second and third quarters, adjustments occurred on the price of market pulp. Late in the fourth quarter, consumer inventories were again on the low side; and business began to improve rapidly as confidence was restored that prices on pulp had more or less stabilized.

Fortunately there was no setback to the market following the devaluation of all Scandinavian currencies. The few disturbances that occurred were soon isolated, and the benefit from devaluation to the Scandinavian producers was only used to assist in the adjustment of the price of unbleached kraft pulp to a level that made it possible to meet North American competition. During the fourth quarter, operations within the paper industry improved to such an extent that purchasing for 1950 started and continued very active right up to the end of the year.

For 1950 the indications are that there may be an increase in the amount of tonnage forthcoming to this market from Scandinavia over 1949 and, particularly so, if general business within the United States is maintained at a reasonably good level. It is too early however to be able to predict any overall figures because most of the tonnage under contract is subject to quarterly price-fixing.

Of major interest is the fact that improvements have been brought about in the quality of many Scandinavian grades. Probably the most outstanding recent development initiated by Swedish producers has been the bleaching of sulphate pulps with chlorine dioxide, with the resulting marked improvement in reaching extremely high brightness in color without the loss of strength and, at the same time, giving improvement in the opacity of the fibres. Scandinavian grades of bleached sulphite continue to be recognized as excellent quality. In the field of unbleached sulphite, a number of Scandinavian mills have improved the brightness of their color as well as the cleanliness of their grades. The new hardwood grades of bleached sulphite and bleached sulphate are also contributing new values to paper-making and have readily found great interest with American consumers. Scandinavian industry is carrying on intensive research in the development of better fibres for paper-making and, also, in the refinement of resulting by-products. As a result Scandinavian producers hope to offset, through the medium of their improvements in manufacturing better qualities, the loss in production that has been imposed upon them through the necessary curtailment in their overall production of pulp. They have reason to look forward to a satisfactory year during 1950.

U. S. Scandinavian Trade

We must hope the day is not too far off when currency problems become adjusted and world trade restored. When that day arrives no part of this present "One World" will be any particular country's sacred province for sales. Competition will be keen, and the impact of the North American production and consumption will be bound to play a major role. There are no countries better qualified through their long friendship and common interest to cooperate than are the United States and Scandinavian countries. It is time to start now to get back on the road where mutual interests are furthered. We hope Scandinavia will decide to continue to take the road leading west, both in trade and in the close friendship that follows trade in peace loving nations.

Market Pulp Activity—1949

By

REX VINCENT

Bulkley, Dunton Pulp Co., Inc.

Market pulp in 1949 experienced just about as many different things as can happen in any twelve months period.

The first part of the year was characterized by a listless condition of the market in general, due primarily to the inventory adjustment which began in the middle of 1948. In the unbleached grades of sulphite and sulphate pulps, this inventory adjustment was actually severe. It dropped inventories of unbleached sulphite from a peak of 196,000 tons in August of 1948 to a low point of 81,300 tons in October, 1949. Thus, this adjustment was spread over fourteen months and represented a withdrawal of slightly over 85,000 tons. Liquidation of the unbleached sulphate inventory was accomplished a little earlier. The inventory peak on this grade was in March, 1948, when it amounted to about 140,000 tons. It reached the low point by August of 1949 when it was about 64,000 tons.

The deliberate depletion of these inventories, plus a decrease in consumption, affected all sources of supply for unbleached pulp, but that most drastically affected was Scandinavia. During the early part of 1948, monthly receipts of unbleached sulphite from Scandinavia were running between 15,000 and 18,000 tons, but by March of 1949 they were down to 4,200; and did not pick up to their former level of 18,000 tons until October of 1949.

While the inventory liquidation in these two grades of pulp was very nearly parallel, the relationship of the consumption of them was not. Unbleached sulphite consumption has decreased from its 1948 levels by about 15,000 tons per month, but the consumption of unbleached kraft during the middle part of 1949 was only about half what it was in 1948. In September and October of 1949 the consumption of market unbleached kraft picked up, and is now running about 40,000 tons per month.

The performances of the bleached pulps during 1949 was vastly different from the unbleached grades. Bleached sulphite maintained a remarkable steadiness throughout 1949 with a monthly consumption very close to 60,000 tons a month. In October and November this jumped up to about 74,000 tons. All during 1949 consumption of bleached sulphite ranged just a little ahead of the total available each month, so that during the year there was an inventory withdrawal amounting to almost 40,000 tons; and by the end of the year, these inventories were at a seriously low level. None of these pulps, however, can compare in their performance with that of bleached sulphate. The purchases of this pulp in 1949 were almost three times what they were in 1946. The total purchases of bleached sulphite and bleached sulphate in 1946 were 734,640 tons, while the estimated purchases of these two pulps in 1949 is 987,300 tons, a percentage increase over these years in these two bleached pulps of 34 percent. The increase in bleached sulphite was 9 percent but the increase in bleached sulphate was 180 percent.

Shift in Fibre Consumption

These figures present a change in fibre consumption over a period of only four years that is almost substantial enough to be termed a revolution. Comparing purchases of total market pulp for 1946 to 1949: total pulp was down 8 percent, unbleached sulphite was down 29 percent, but bleached sulphite was up 9 percent and bleached sulphate was up 180 percent, indi-

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cating a tremendous shift inside the chemical grades of wood pulp.

The question may be asked if this sharp shift to bleached fibres is not nearly over. A levelling off or a slight decrease is certainly due. However, in 1950 there will be still more bleached sulphate offered to buyers of market pulp. This additional quantity is roughly estimated at about 120,000 tons which is more than the total purchased in 1946.

Devaluation and Prices

As indicated above, the liquidation of inventories proceeded through most of the year—at least until the early Fall. At about this same time devaluation struck the market. While everybody expected it to happen at some time, and while some had predicted that it would happen at least a year previous, it came as a surprise to most buyers of pulp. Immediately, in most buyers minds, there arose a concept of a rapidly changing price structure, with prices declining by amounts equal to the devaluation. This concept could not stand up to an analysis of the whole situation nor to an analysis of those factors which caused the Scandinavian countries to devalue their currencies. After reconsiderations, pulp buyers accepted the fact that there would be no radical drop in price due solely to devaluation.

As a matter of fact, devaluation came at about the end of a steady price decline, and there has been no general lowering of prices since devaluation occurred. Since actions so quickly become hysterical in the pulp market, a brief review of the price movement for the year 1949 should be included.

In the first quarter of 1949, domestic unbleached sulphite was quoted at $118.00 delivered, a reduction of $8.00 to $10.00 from the previously quoted price for the fourth quarter of 1948. At this same time, the Canadian unbleached sulphites maintained their fourth quarter price, so that there existed a differential of from $6.00 to $9.00 between Canadian and American unbleached sulphites. The Swedish pulps were quoted in the neighborhood of $130.00 Atlantic dock. However, these high Swedish prices were to a large extent corrected by the second quarter of the year when they dropped to $115.00 dock.

For the second quarter, domestic unbleached sulphite went to $115.00 delivered, and shortly thereafter most Canadian producers met this level. Following that the Scandinavian sources started quoting lower prices until, when domestic prices were announced at $100.00 delivered for the third quarter, all producing areas were quoting that price. This same price carried through the fourth quarter of 1949 and has been continued almost universally into the first quarter of 1950. During the months of August, September and October, there were some spot lots of unbleached sulphite offered at prices as low as $75.00 dock, but by the latter part of November most of these had disappeared.

Bleached sulphite continued throughout the first six months of 1949 at $126.00 delivered until the third quarter when a price of $118.00 delivered was established. At about this same time a price of $126.00 delivered was established for most bleached sulphates, but the Southern grades went to $118.00 delivered, and later on one West Coast producer announced the same price. These levels were maintained for the balance of the year and have continued into the first quarter of 1950.

While these prices represent substantial decreases, none of the decreases was as great as that which developed in unbleached kraft which during the year dropped from $20.00 to $25.00 per ton, and by the end of the year had reached levels of from $80.00 to $82.50 delivered or about $75.00 dock.

As was mentioned earlier in this review, the first seven months of the year were characterized by a listless condition of the market. The balance of the year was memorable for one of the swiftest reversions on record. The spurt of buying which developed in August, and which many observers felt would be only a spurt, became a plateau of great activity that lasted through the end of the year and into 1950.

The year 1949 broke no records as far as the production and consumption of market pulp was concerned, but it was a highly active and most interesting year because of the swift change in market conditions that came in the late Summer and the necessity to properly assess the effects of the currency devaluation. I believe that the buying spurt which developed in August was unexpected by most people in the trade and was not only unexpected but it endured far longer than any thought possible. A business is always interesting when the unexpected takes place.

Writing Paper Mfrs. Assn.

W. B. Zimmerman was re-elected president of the Writing Paper Manufacturers Assn. at its 89th annual meeting held in the Waldorf-Astoria, February 21. Mr. Zimmerman is executive vice-president of Howard Paper Mills, Inc., Dayton, Ohio.

Re-elected as vice-presidents were Bruce Crane, Crane & Co., and A. C. Remley, Nekoosa-Edwards Paper Co.

M. C. Dobrow was re-elected executive secretary-treasurer. This marks the beginning of Mr. Dobrow's 35th year with the Writing Paper Manufacturers Assn. John F. Darrow was re-elected assistant secretary and Miss Olive F. McGill was re-elected assistant treasurer.

Members elected to the Association Executive Committee representing the *Rag Content Paper Group* were: Bruce Crane, Crane & Co., Inc., re-elected chairman of the Rag Content Paper Group; G. H. Gerpheide, Hawthorne Paper Co.; T. M. Gilbert, Gilbert Paper Co.; Hale Holden, Byron Weston Co.; F. E. May, Rising Paper Co., D. E. Oberweiser, Fox River Paper Corp.; E. C. Reid, American Writing Paper Corp.; A. J. Schierl, Whiting-Plover Paper Co.; G. E. Williamson, Strathmore Paper Co.

Members elected to the Association Executive Committee representing the *Sulphite Bond Group* were: A. C. Remley, Nekoosa-Edwards Paper Co., re-elected chairman of the Sulphite Bond Group; J. G. Conley, Fraser Paper, Ltd.; W. J. Garrity, Munising Paper Co.; W. L. Jennings, West Virginia Pulp & Paper Co.; C. B. Morgan, Eastern Corp.; F. H. Savage, International Paper Co.; H. W. Suter, Jr., Champion Paper & Fibre Co.; R. I. Worrell, Mead Corp.; J. D. Zink, Hammermill Paper Co.

In addition, the following were elected to the Association Executive Committee: Norman Harrower, Linton Brothers & Co., representative of the *Bristol Board Group;* G. E. O'Connor, Mohawk Paper Mills, Inc., representative of the *Cover and Text Paper Group;* Bernard Lucas, S. D. Warren Co., representative of the *Thin Paper Group.*

Speakers at the meeting included Dr. Edwin G. Nourse, former chairman of the President's Council for Economic Advisers; W. B. Zimmerman, president of the association; Pierre J. Landry, Chief, Forest Products Branch, ECA, Paris, France; Harold T. Martin, Labor Commissioner, Holyoke, Mass.; W. W. Corlett, counsel, and M. C. Dobrow, executive secretary of the association.

The meeting was attended by over 100 members and guests.

Norman Harrower, Linton Brothers & Co., Fitchburg, Mass., was elected chairman of the *Bristol Board Group* at its meeting February 20. He succeeded R. M. Swaney, Franklin Paper Co., Holyoke, Mass. Other members of the Bristol Committee elected were as follows: A. P. Mitchell, vice-chairman, Riegel Paper Corp.; J. B. Cowie, Hollingsworth & Whitney Co.; R. H. Morrill, Chemical Paper Manufacturing Co.; George Watson, Wheelwright Papers, Inc. W. LeRoy Neubrech, Chief, Pulp and Paper Section, Office of Domestic Commerce, Department of Commerce, discussed the outlook for the paper industry. Major Lamar D. Monroe, Office of the Quartermaster General, Washington, D. C., spoke on Army requirements for bristols and packaging.

George E. O'Connor, Mohawk Paper Mills, Inc., was elected chairman of the *Cover and Text Paper Group* on February 22. He succeeds D. T. Quirk, Peninsular Paper Co., Ypsilanti, Mich. Other members of the committee elected were as follows: C. W. Hansen, Hampden Glazed Paper and Card Co., vice-chairman of the committee; R. F. Arnold, Strathmore Paper Co.; G. H. Beckett, Beckett Paper Co.; D. T. Quirk, Peninsular Paper Co. J. L. Ritchie, executive

(Continued on page 110)

Outlook for Canada's Pulp and Paper Industry

DR. ALLAN C. HILL

Vice-President, Montmorency Paper Co., Inc.

The importance of Canada's pulp and paper industry to the Dominion's economic life may be summarized by saying that it occupies first place in investment, production, employment and exports among Canadian industries, and its indirect effect as the largest industrial purchaser of raw materials, equipment, fuel transportation, and other goods and services is far-reaching. Not less important is its contribution to Canada's export trade, particularly its role in attempting to reduce the deficit of American dollars from which Canada is suffering along with many other world-trading nations.

Canada is principally known in world trade in pulp and paper as an exporter of newsprint and chemical and mechanical pulps, although other pulp and paper products are exported in sizable amounts. Undoubtedly this trade will grow in volume when present impediments to world trade diminish. But the preponderant flow of pulp and paper products is that of newsprint and pulps from Canada to the United States market.

Newsprint

Canada produces about 60 per cent of the world's newsprint and nearly 85 per cent of this goes to the United States. The Dominion has continued to expand its production in response to world demand, and in 1949 broke all previous records by producing 5,176,327 tons, up almost 200,000 tons from the previous year. Modernization of existing newsprint mills continued throughout 1949 and still goes on, to meet the heavy production demands of the world's publishers. No new mills have been constructed in meeting these demands nor were any under construction at the year's end, although newspaper reports say that construction of a newsprint mill in Alberta will begin this year.

In 1949, Canada shipped 4,380,250 tons of newsprint to the United States, an increase of 6.1 per cent over the previous year. The United States newspapers reached new highs in circulation, advertising, and number of pages printed. The sustained growth of newspaper advertising over the past several years (1945-1949) has been a predominant factor in the rise in newsprint consumption. In the first eleven months of 1949 this newspaper advertising was 1.7 per cent higher than in the same months of 1948, while magazine linage showed a decrease of 8.6 per cent for a similar period. In the first nine months of 1949, U.S. radio network billings were 4.3 per cent lower than in 1948.

These figures, taken in conjunction with the confident business forecasts for 1950, suggest that the Canadian industry can look forward to a maximum level of newsprint shipments to the United States in the ensuing year.

The outlook is considerably less encouraging for shipments to the overseas markets. It must be recalled that despite the large shipments to the United States, the overseas markets have been of great importance to the Canadian newsprint producer, the principal markets being the United Kingdom, Australia and New Zealand, and Latin America, although shipments to Africa and Asia have been of some consequence. Prior to the war and its aftermath, overseas countries consumed an average of 22 per cent of Canada's output of newsprint. In 1949, only 9 per cent of Canada's newsprint was so consumed, and the outlook for 1950 suggests a considerably lower volume of overseas shipments due to the increasing dollar shortages. But the completed pattern of these shipments for 1950 is still to become evident.

If the dollars available for newsprint continue to be severely limited, these overseas countries will represent a further demand on Scandinavian sources or on sources in the United Kingdom which have not been operating at full capacity for over a decade. Since the English operation would depend largely on Scandinavian pulp and that in turn on forest reserves in these countries, it is highly problematical to what extent such a drain would be practicable.

Pulp

The world pulp trade of Canada in 1949 was somewhat below that of 1948 and the outlook for 1950, with the possibility of reductions in shipments to non-dollar areas, is not encouraging. In the larger aspect, however, it seems fundamental that the world's paper industry will need the forest resources and pulp producing capacities of both Canada and Scandinavia if requirements as outlined by the Food and Agriculture Organization of the U.N. at the World Pulp Conference in Montreal last year are an accurate forecast of world pulp needs.

The growth of Canada's pulp productive capacity has continued, with two kraft mills coming into operation last year and two more due to begin production this year. In addition, a large sulphite mill for the manufacture of dissolving pulp is under construction. Thus is Canada preparing to meet the expected increase in world demand for chemical pulp.

Total exports for the past year were about 1.4 million tons; of this about 235,000 tons went to overseas markets representing an increase over 1948, the balance were shipped to the United States.

Overall shipments of chemical pulps in 1949 were about 12 per cent below those of 1948, with groundwood pulp shipments down about 30 per cent. These reductions were primarily due to inventory liquidation on the part of the United States paper mills which apparently was completed in the third quarter of the year, and to some extent to lower operating ratios in these mills. At the year's end practically all types of pulps were in steady demand with an approximate supply-demand balance in the bleached grades.

Significant in the year's market were the increased quality demands on the part of the consumer and the noticeable shift to the higher quality categories.

The demand for improved quality in pulps was a strong factor in pulp marketing in 1949 and promises to be of even greater importance in this respect in 1950. Faced with enhanced use requirements for papers and boards, the paper manufacturer has been forced to pass along these demands in part to the pulp producers.

After several years of concentration on an excellent production effort, this quality problem has been undertaken and the Canadian pulp producer, on the whole, has responded readily to the situation. The bleached grades of chemical pulps, in particular, obtained and surpassed their usual high standards of quality. Similarly, unbleached kraft continued to produce satisfactory quality under strong competitive conditions. In the unbleached sulphite field, rather sharp demands on quality were made and considerable improvement resulted, an improvement which is all the more significant when it is realized that much of the Canadian unbleached sulphite up to this point had been only slightly better than so-called "news grade". It is evidently realized by the Canadian producers of unbleached sulphite that if they are to be competitive in this field continued improvement is necessary. Encouraging signs are the installation of additional equipment designed to increase both strength and appearance of the finished product.

It is expected that this development will continue as improvement becomes more and more necessary successfully to compete not only in the American market, but also in the world markets when dollars are again available.

The outlook for Canadian pulps in 1950 in the United States market would appear to depend on a continued high rate of operations of the nonintegrated paper mills, and to some extent to the degree which Scandinavian exports of pulps to non-dollar countries are increased.

In the United Kingdom market, shipments of pulp were well maintained throughout the year, largely purchased through E.C.A. dollars. Dollar allocations for 1950 are apparently to be greatly reduced and may be reflected in the operations of the Canadian industry. However, it is felt that if a high level of business activity continues in the United States throughout the year, the Canadian pulp industry will have a successful year.

Full world trade in Canadian pulps must await a solution of the currency problems leading to freer international trade. But it will undoubtedly be necessary to rely on Canadian pulp production to help rebuild and expand the world's paper industry; and means must be found to allow this trade to go on.

Other Pulp and Paper Products

The Canadian domestic industry suffered to some degree the same difficulties as the United States industry and, at midyear, production levels were off from the corresponding months in 1948. Here again cuts in export tonnage were a factor.

Combined output of book and writing tissues, coated and other grades was about 3 per cent lower than in 1948; wrapping paper production was off about 5 per cent. Paperboard production was about 16 per cent lower than the previous year, due in part to a decline in Canadian demand and in part to reduced export sales. At the year's end, however, paperboard operations were again at a high level, and the outlook for 1950 appears more optimistic than at first believed.

With the overseas markets closing to Canada's paper and pulp products, increasing interest in the opening of the American market to products other than newsprint and pulps is being shown. There is much to recommend such a step; many advantages to both nations can be pointed out. From the Canadian point of view, greater trade with the United States is necessary to bridge the trading gap between the value of exports to the U.S. and the much greater value of imports from there. From the American point of view, Canada is the best customer the United States has, and some method is necessary to allow Canada to earn more U.S. dollars.

The direct advantages to the paper industries of both Canada and the United States should also be considered. The Canadian pulp and paper industry would expand its output of those products for which that industry has the facilities and economic advantages for delivery to the adjacent United States markets. Similar opportunities would be created for the pulp and paper industry of the United States, particularly in the manufacture of those products in which their greater experience and highly developed skills would be of distinct advantage. At first thought, the difficulties, the dislocations, and the problems appear to be insurmountable; but one feels by a step by step reduction of tariffs between the two countries on such products mutual benefits will accrue, both economic and political, over the long range. Some progress has already been made as a result of the Geneva agreements—some paper and board products are being sold and this might well result in the initiation of trading in such products between certain areas of the two countries; but these tariff reductions are not believed sufficient to give either the manufacturer or the consumer the sense of security so necessary for continuing business relationships. However, they have been successful in arousing interest on the part of the Canadian manufacturer in the United States market. Further progressive reduction in the tariff on pulp and paper products entering both countries might be looked for.

Devaluation

Reference has already been made to the effect of the "dollar shortage" on Canada's pulp and paper overseas shipments over the past year. Late in 1949, the effects of devaluation of sterling and its satellite currencies on the overseas export business became apparent. One result has been increased competition from the Scandinavian soft currency countries. But price is not the only factor; as the "dollar shortage" worsened Canada found it increasingly difficult to sell pulp and paper overseas, and to these difficulties must be added that of higher prices in terms of domestic currencies. This may be an important factor in reducing the industry's overseas markets.

It is to be hoped that there will not be too drastic a reduction in the overseas export market and that the effect of any such reduction will not be too severe. However, Canada must suffer the consequences of a policy designed to re-orient world trade to reduce or overcome dollar shortages. The length of time required to accomplish this is not yet apparent.

No one doubts the need for effective economic adjustments nor denies the obligation of Canada and the United States to purchase more goods from the soft currency areas with which to pay for exports. As devaluation is successful in lowering the prices of "soft currency" countries in the United States and Canada, it offers a temporary solution of the world trade problem.

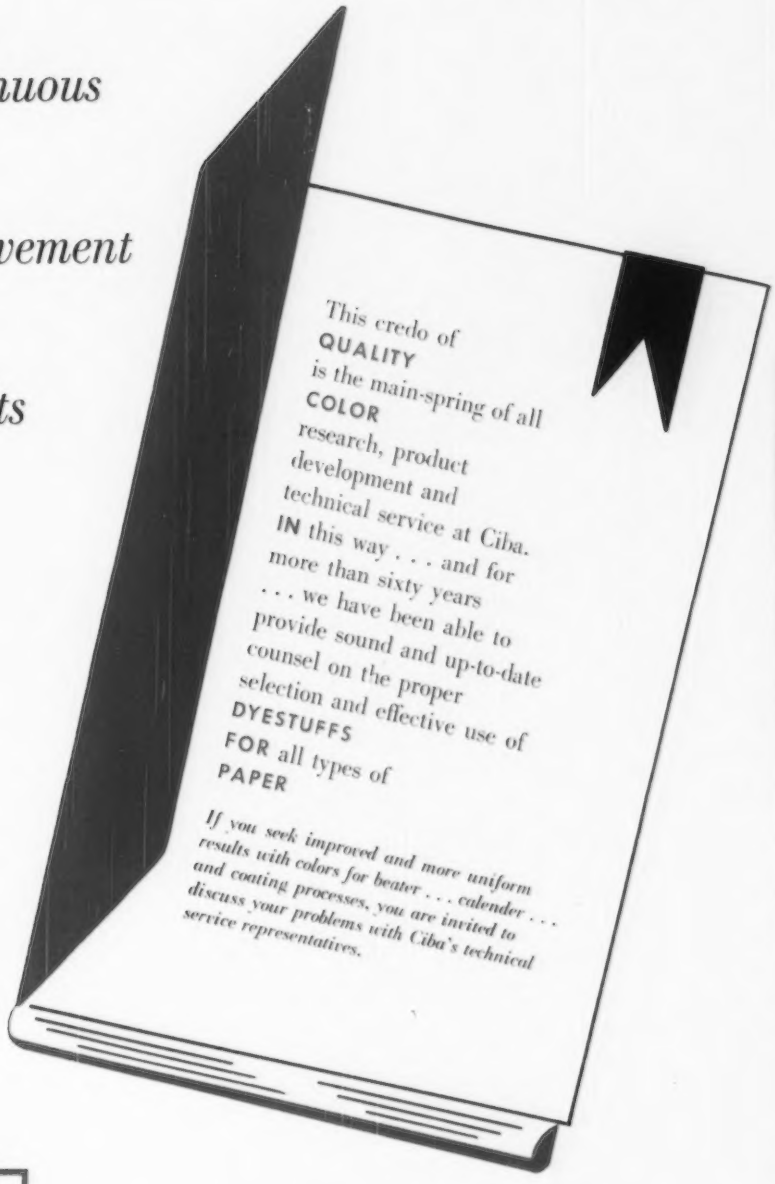
The danger as far as Canada's pulp and paper industry is concerned is that permanent loss of overseas markets could result. However since the world supply of pulpwood, pulp, and paper appears to be inadequate, it seems probable that following a revival of international trade the demand for Canada's forest products will resume, because of the world's dependence on these forest products.

Summary

In summary, the outlook for Canada's pulp and paper industry for the immediate future appears on the whole to be good. Undoubtedly, there are problems now, and difficulties may arise as the year continues, due principally to the dislocation of the world's long established trading patterns. To a large degree the manner in which these problems are solved, and the success in finding new markets for Canada's pulp and paper products, will determine the immediate outlook for the industry.

The long term outlook of the industry will depend on the successful solution of the political and economic problems at present facing the world. The successful solution of these, or, what is more probable, partial success in their solution, should lead to a period of growing prosperity for Canada's pulp and paper industry.

Continuous Improvement Benefits All!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The Casein Situation

GEORGE C. SMULLEN

Manager, Casein Div., The Borden Co. Chemical Div.

DRY CASEIN PRODUCTION U.S.A.
Short Tons—2000#

	1947	1948	1949
Jan.	1271	375	510
Feb.	1144½	405	830
March	1280	490	1050
April	1451	712½	1362
May	1902	1085	1612
June	2245½	1012½	1300
July	1820	600	863
August	1537½	426½	638
Sept.	1265	412½	485
Oct.	875	550	458
Nov.	432½	362½	425
Dec.	442½	307½	450
	15666½	6739	9983

During the early part of 1949 everyone was optimistic about the production of casein in this country. Everything pointed toward a gradual return to prewar production levels of 40,000,000 to 50,000,000 pounds. Lower prices were visualized which would increase consumption. Indeed the future was bright. But the one unpredictable factor that changed this rosy outlook was the purchases of skim milk powder by C.C.C. These purchases reached the unprecedented total of approximately 435,000,000 pounds compared with approximately 150,000,000 pounds in 1948. When it is realized that 100 pounds of skim milk will yield approximately nine pounds of solids for powder or 2½ pounds of casein, it is readily understood why the bulk of skim milk was diverted to powder. This variance permitted powder manufacturers to outbid casein producers for the available supplies. Then too, cheese production exceeded 1948 figures by approximately 80,000,000 pounds. Total domestic production of approximately 20,000,000 pounds of casein was far below estimates. Thus, again, this country was forced to import casein to satisfy requirements.

The logical source of imported casein was Argentina. Stocks in that country were at satisfactory levels and prices were declining steadily without the fluctuation that had been experienced during previous years. As prices decreased, consumption increased at the expense of substitute materials. In view of persistent rumors of devalued currency, consumers operated on minimum inventories. This forced a heavy burden on suppliers but had a tendency to stabilize prices, as requirements were small but steady and did not disturb the market as large spotty orders had done in the past. When devaluation was finally announced, it was expected that prices would drop, reflecting this change. There was a short period when all trading was suspended.

ARGENTINE IMPORTS TO U.S.A.
Metric Tons—2204#

	1947	1948	1949
Jan.	1840	1655	282
Feb.	75	2202	346
March	....	379	463
April	60	1439	446
May	....	1351	343
June	....	2068	552
July	500	1166	1136
August	1470	947	941
Sept.	951	1009	2381
Oct.	873	997	2354
Nov.	1060	793	1594
Dec.	2426	1593	1481
	9255	15599	12519

TOTAL ARGENTINE EXPORTS
Metric Tons—2204#

	1947	1948	1949
Jan.	3338	2376	1243
Feb.	2089	2998	804
March	2374	2122	2472
April	1903	2808	1567
May	882	2961	1553
June	2524	3196	1141
July	1286	2588	1967
Aug.	4432	2129	1981
Sept.	2538	1508	3144
Oct.	1884	2405	2535
Nov.	2532	1261	2696
Dec.	2978	1472	2891
	28760	29823	23994

EXPORTS FROM THE ARGENTINE
Metric Tons—2204#
1949

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Totals
Austria	....	....	47	....	....	....	....	....	....	....	....	....	47
Belgium	40	55	147	97	88	40	52	....	65	20	....	17	621
Brazil	2	....	....	....	....	....	50	84	60	50	5	....	251
Chile	....	2	....	....	....	....	....	....	....	7	7	....	16
China	....	....	....	....	....	4	....	3	2	....	....	....	9
Czecho-Slovakia	....	....	....	....	....	....	....	....	....	....	....	76	76
Finland	170	....	30	205	170	....	....	150	320	....	560	200	1805
France	13	....	35	....	....	....	....	....	....	....	....	....	48
Germany	160	270	750	605	475	175	....	....	62	10	....	....	2507
Greece	....	....	....	....	....	19	28	22	12	....	....	1	82
Holland	426	....	40	....	15	....	....	70	42	....	....	....	593
India	20	70	....	16	40	....	25	....	....	5	....	....	176
Italy	15	....	5	83	194	26	298	391	38	45	330	523	1948
Japan	....	....	925	....	....	....	....	....	....	....	....	....	925
Malay Arch.	....	....	....	....	....	2	....	21	....	....	....	....	28
Manila	....	....	....	....	....	....	....	....	....	....	....	5	5
Mexico	26	....	3	16	11	19	13	10	26	2	12	10	148
Neth. E. Indies	....	....	....	....	....	....	....	....	....	....	....	4	4
Norway	....	....	....	....	....	....	50	....	....	....	169	33	252
Palestine	....	8	....	2	12	4	17	39	1	....	10	2	95
Peru	....	....	....	....	....	2	....	3	....	....	2	....	7
So. Africa	....	....	5	70	....	....	....	....	....	....	....	....	75
Spain	....	....	....	....	....	....	19	200	100	3	....	525	847
Sweden	30	43	12	2	5	290	219	47	30	19	....	....	697
Switzerland	59	10	....	25	....	....	28	....	....	....	....	....	122
U. S. A.	282	346	463	446	543	552	1136	941	2381	2354	1594	1481	12519
Venezuela	....	....	16	....	....	3	2	....	5	20	7	14	61
Yugoslavia	....	....	....	....	....	....	30	....	....	....	....	....	30
	1243	804	2472	1567	1553	1141	1967	1981	3144	2535	2696	2891	23994

But renewal did not reflect devaluation. For a very short period, some low offerings were made, but when buyers showed interest these offers were withdrawn and increased. Instead of consumers receiving any benefit of devaluation, prices were returned to previous levels with increased revenue to Argentine producers. However, a portion of this increase was offset by increased manufacturing costs. Higher wage rates have created a greater demand for dairy products, thereby diminishing the supply of skim milk available for casein production.

In recent weeks the price structure has been aggravated by drought conditions in certain producing areas. Stocks are at an apparent all time low for this season of the year. Producers are unwilling to release stocks at any reasonable price level. While there may be some slight change in futures, it is believed that no substantial weakening will take place until our domestic production picture clarifies. This is an unknown factor and will be until late April or early May.

The other casein producing countries, such as New Zealand, Australia or France do not have any substantial quantity available for export. While small parcels have arrived or are enroute from these countries, it appears that additional tonnage will be small. Also prices have risen reflecting the short position, which makes this supply less attractive.

While Canada has shipped reasonable quantities in the past, production is now at a point where little relief can be expected from this source.

The recent announcement of continued support prices on dairy products until March 1951 will have a definite effect on domestic casein production if C.C.C. requirements approach 1949 levels. Stocks of casein throughout the world are undoubtedly low, and we can expect casein to be reasonably tight until our flush season. This will not occur for several months and will be awaited with interest as this period can set the course of supply and price for the balance of the year

Progress in Coating Adhesives

NILS ANDERSON, JR.
551 Fifth Avenue, New York 17, N. Y.

So much technological progress has been made in chemistry which has resulted in new basic chemicals and in turn, new concoctions, that it is hard to know the final effects on older coating adhesives. At the same time new processes are compelling raw material manufacturers to develop products that will fit into the new operation.

There are so many new types of synthetic adhesives that it is doubtful if they have been explored thoroughly. Some probably have not been considered at all.

Starches

Basically, it will be difficult for any synthetic or other coating adhesive to compete with corn starch. Actually, though used in large quantities, corn starch is a relatively new product for paper coating purposes. Paper mills now depend on domestic production which is uniform in quality. It would be difficult for them to alter their usage unless there was a substantial price saving, which apparently is not in the cards. Also, domestic corn refiners here in the United States have large production facilities. It is unlikely that they would give up any of their market to foreign competition without a fight.

Because of the plentiful supply of corn starch in this country at reasonable prices and because the paper coaters use such large quantities, it is natural for them-to lean on this situation. There is no other adhesive in such large quantities.

Machine coaters could not depend on other types of adhesives, because of their limited supplies.

Proteins

The protein adhesives such as casein

and chemically-isolated protein play an important part in brush coating operations, and it is hoped will eventually play a more important part in machine coating. Both casein and the soya protein play an interchanging part depending primarily on the price of casein.

Prior to the last war, a record of around 40 million pounds of casein was used for paper coating during one year; an estimate of 15 million pounds to 20 million pounds is now generally accepted. Another 15 to 20 million pounds of either alpha and other protein is consumed for paper coating. From these figures, it is unlikely that brush coating has dropped off too much, although it is understood that machine-coated paper is taking away some of brush-coated paper's customers.

The chemically isolated soya protein is gaining ground in the paper-coating industry because of its stability in price as well as its uniformity in quality, neither of which characteristics applies to casein.

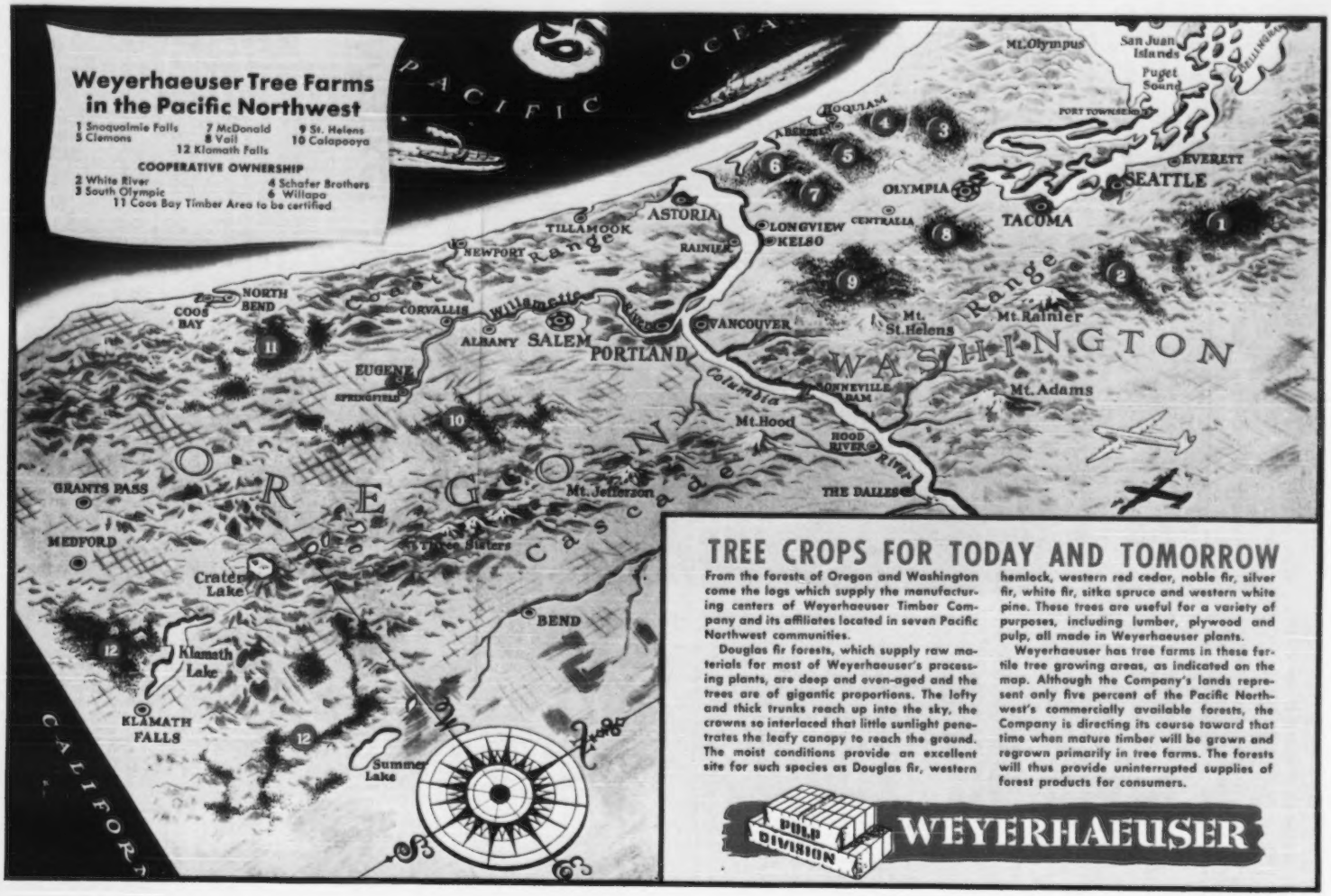
However, it is generally believed that for many purposes casein has characteristics that cannot be duplicated by non-protein adhesives. There is a good possibility that in the near future, however, that the properties of soya protein for paper coating may be improved for some uses.

At the present time, there are only two producers of soya proteins, and when casein goes up in price over the price of soya, the increased demand for the latter cannot be satisfied by the limited production facilities. This situation, which will change in the near future, has served as a control on the price of casein. Compared with the previous instability of the casein market, since the advent of soya protein, the casein price has been relatively stable.

The future of casein depends on what the government does in supporting the price of skim milk powder. It is my belief that casein will emerge as a low-cost adhesive in the near future, because some day the agricultural program will be supported at a lower level.

Synthetic Resin Coatings

The most talked about coating resin emulsion is the polystyrene-butadiene type of copolymer. Although not much publicity is given to this product, it is used in tank car quantities by many large plants. It is estimated that over 10 million pounds were used in 1949.



TREE CROPS FOR TODAY AND TOMORROW

From the forests of Oregon and Washington come the logs which supply the manufacturing centers of Weyerhaeuser Timber Company and its affiliates located in seven Pacific Northwest communities.

Douglas fir forests, which supply raw materials for most of Weyerhaeuser's processing plants, are deep and even-aged and the trees are of gigantic proportions. The lofty and thick trunks reach up into the sky, the crowns so interlaced that little sunlight penetrates the leafy canopy to reach the ground. The moist conditions provide an excellent site for such species as Douglas fir, western hemlock, western red cedar, noble fir, silver fir, white fir, sitka spruce and western white pine. These trees are useful for a variety of purposes, including lumber, plywood and pulp, all made in Weyerhaeuser plants.

Weyerhaeuser has tree farms in these fertile tree growing areas, as indicated on the map. Although the Company's lands represent only five percent of the Pacific Northwest's commercially available forests, the Company is directing its course toward that time when mature timber will be grown and regrown primarily in tree farms. The forests will thus provide uninterrupted supplies of forest products for consumers.

PULP DIVISION

WEYERHAEUSER

Here is a stable priced synthetic that can be used in conjunction with the starches and proteins to give properties and characteristics heretofore unavailable.

Some plants are using various modifications of polyvinyl acetate and getting very desirable results. Urea resins available in large quantities are used in certain cases to insolubilize polyvinyl acetate, also starch.

The rapidly increasing number of synthetic resins such as methacrylates, polyethylene, tetrafluorethane, silicones, and many others, cause the paper chemists to keep their thinking caps on. The producers of these materials have difficulty keeping up with the potential uses, and sometimes lose sight of the possibilities in the paper coating fields. At the same time the paper chemist is so engrossed with his work that he many times loses touch with the material supplier. Closer contacts with supplier and paper chemist would no doubt bring fabulous results.

Conclusion

Generally speaking, statistics show a steady growth in the consumption of most adhesives in the paper coating trade, except for casein. Business in general has shown growth and expansion. If any decrease in business should occur, there could be a general shakeout in the use of adhesives, and it would be interesting to know what materials will survive. The natural adhesives such as casein and corn starch are likely to be hard to beat in cost. On the other hand, if production of coated papers increases steadily as everyone hopes, newer synthetics will undoubtedly capture a good portion of the market.

Market Review of Caseins, Rosins and Resins

J. M. WALSH

Manager, Paper Chemicals Dept., American Cyanamid Company

Casein Supply Better

The casein supply picture was better during 1949 than anytime since the war. In the forepart of the year supplies were ample and the price dropped from a January 1, 1949 level of 26 cents per pound to approximately 18 cents by the end of December of that year. There was considerable weakness in price during the Fall when various countries devaluated their currencies 30 percent, followed by Argentina where the devaluation was approximately 47 percent as compared with the American dollar. Prices at that time dropped to a level around 16 cents but remained there only a few days. From that time to the end of the year they fluctuated in a relatively narrow range of 17 to 20 cents.

Since the war the consumption in the United States has been running around from 50 to 55 million pounds in all industries. With better business conditions during the last half of 1949, the demand picked up somewhat, and we estimate the total consumption in 1949 was somewhat over 50 million pounds.

Below we give the total available casein, namely, production plus importation, for the last few years, as these figures will give you some idea of the present supply situation. This, of course, has a direct affect on prices.

Exact figures for the 1949 production and importation will not be available until later in the spring. However, based upon past estimates, it would appear that supplies in the United States are at a relatively low level. Unless production or importation increases, there is a fair likelihood that higher prices will prevail during the balance of this winter, at least if demand and consumption continue at a level somewhat heavier than during the winter of 1949.

	Production Lbs.	Importation Lbs.	Total Available Lbs.
1946	18,175,000	45,042,000	63,217,000
1947	31,333,000	20,462,000	51,795,000
1948	14,110,000	40,585,000	54,695,000
1949 (Estimated)	20,000,000	33,000,000	53,000,000

U. S. Govt. Support

Our Government continues to support the price of milk powder, and production of dry skimmed milk powder during 1949 was the highest on record. The announced support price for January is 12½ for spray and 10½ cents for roller. These relatively high prices will draw away from casein factories most of the available skimmed milk. We expect that domestic production in the U. S. in 1950 will be slightly higher, possibly as much as 25 million pounds. This estimate is based on the heavy flow of milk that is occurring throughout the country at the present time. Of course, many things may happen between now and the end of 1950 which may change the above estimate, either up or down.

Import Markets

The supply of casein comes principally from Argentina. The present situation in the Argentine, according to best informed reports, is that stocks are low and production is down considerably from 1949, due to lack of rain this past winter in Argentina.

During the past few years we have received 1000 to 1500 tons of casein from Canada yearly, and this supply seems to be increasing. Canadian casein is more like our standard quality and can be used by the paper coaters without trouble. New Zealand will ship more casein to us in 1950. Casein from that country is probably the best in the world. The supply since the

war has been controlled by the British Government. However, due to devaluation, we believe that greatly increased quantities of New Zealand casein will find its way into the U. S. We expect to get 1,500,000 to 2,000,000 pounds from that country in 1950. There may be offerings from European countries such as France, Denmark, Norway, and even Poland.

The overall picture is, therefore, not too bad, although prices may average higher during the year than in 1949.

Rosin and Rosin Size

Both wood and gum rosin are in ample supply this winter. Production of rosin for the nine months of the crop year April 1 through December 31, was as follows:

	Gum	Wood	Total
1948	745,250 drums	880,910 drums	1,626,160 drums
1949	766,360 drums	808,980 drums	1,575,340 drums

Stocks on hand the end of the year, gum and wood, were 809,580 drums. This compares with stocks December 31, 1948, of 538,590 drums.

In the Fall, the Government announced that rosin in the new crop year beginning April 1, 1950, would be supported at 60 percent of parity. This, of course, compared with 80 percent of parity paid during May to December, 1949, or $6.72 for common grades such as K. Last year the Government announced a loan at the rate of 70 percent of parity, but there was considerable protest from producers; on May 1 the price was raised to 80 percent. If the Government goes through with the announced plan of paying only 60 percent of parity, this would amount to approximately $5 for K gum rosin. There is considerable likelihood that the average price for rosin during the new crop year will be below the present level which was $6.39 a hundred pounds on February 1, 1950.

Rosin producers claim that the low level of the loan, namely, 60 percent of parity, will discourage some of the farmers in the South, and production will be lower during the 1950 crop year. On the other hand, about 50 percent of the total gum rosin produced during the past two crop years has gone under loan and the present holdings of rosin are approximately 750,000 drums. We are inclined to believe that if the loan is not lifted and remains at 60 percent of parity, more rosin will be sold directly to the consumer and less will go under loan. Prices then may average as much as $1 per hundred pounds below average prices in 1949.

Paper Resins

The demand for melamine-formaldehyde and urea-formaldehyde resins during 1949 improved considerably. This intensified interest in the field of resin-bonded papers is expected to carry through 1950. The increasing understanding of application of resins for fiber bonding for both wet-strength papers and for improvement of dry-strength has added greatly in the expansion of this field. Melamine resins continue to lead the field, and an ever-growing interest by the paper industry has markedly increased the sale of resins, including the ureas. We look for expanded sales of both urea and melamine resins for 1950.

Prices appear to be firm. No price increases were noted during 1949. Prices quoted in 1950 so far have remained unchanged from 1949 prices, and there is no indication they will be changed, at least in the first half of 1950. Supplies also are ample.

Pulp Consumers Re-elect Beckett and Evans

William Beckett, executive vice-president of the Beckett Paper Co., Hamilton, Ohio, was re-elected president of the Assn. of Pulp Consumers, Inc., at a directors' meeting which was convened immediately following the annual meeting of the association on Wednesday, February 22, at the Waldorf-Astoria. Robert Evans, director of purchases, Riegel Paper Corp., of New York City, was re-elected vice-president of the association, and Karl A. Clauson was re-elected secretary-treasurer. The offices of the association are at 250 Park avenue, New York 17, N. Y.

At the annual meeting of members held earlier in the day, William Beckett discussed the increasing importance of the Assn.'s activities to the more than 250 member mills. He emphasized the importance of maintaining an adequate world supply of market pulp. Karl A. Clauson, secretary of the association, presented a review of the paper grade market pulps illustrated with colored charts, showing the trends during the past 13 years, as well as the market pulp prospects for 1950.

The association concluded its annual meeting with the election of the following five new directors: W. F. Erisman, vice-president, Erving Paper Mills, Erving, Mass.; T. F. Murphy, president, Beach and Arthur Paper Co., New York 17, N. Y.; D. E. Oberweiser, vice-president, Fox River Paper Corp., Appleton, Wis.; William Race, president, Sutherland Paper Co., Kalamazoo, Mich.; Gilbert A. Weisberger, vice-president, Orange Pulp & Paper Mills, Inc., Long Island City, N. Y.

These men will serve with the following ten directors whose terms continue through the fiscal year: Robert H. Evans, R. Graham Hagey, P. Koenig, George E. O'Connor, A. F. Owen, B. I. Reider, Dwight L. Stocker, Samuel B. Sutphin, R. L. Vayo, George E. Williamson.

WM. BECKETT, PRES.

ROBERT EVANS, VICE-PRES.

Herrell Leaves G.P.O. Post

WASHINGTON, D. C.—Public Printer John J. Deviny announced on February 2 to a group of Government Printing Office officials that Russell H. Herrell, his executive officer, was leaving the office to enter private business.

Mr. Herrell had a varied and distinguished career in the Government service, as a legal and accounting expert in the General Accounting Office, before coming to the G.P.O. in 1934.

1949 With a Twist on 1950 in the Waste Paper Industry

S. I. HERSHMAN
I. Hershman & Co., Inc., New Haven, Conn.

When the year 1949 opened its gates, the wastepaper industry did not have much to look forward to. We had been seasoned to little or no business during the latter part of the previous year, and 1949 did not look too bright. Perhaps 1949 could best be described briefly as:

January—Hope.
February—Still hoping.
March—A little better but not too good.
April—Like the month itself—full of rain.
May—Spring—a little better but not too good.
June—Everyone was wondering where we were going to end up.
July—Now it was evident that it might be a little better.
August—Improving.
September—Good.
October—Good.
November—Very good.
December—The industry knew business would slow up for the usual year end repairs, inventory taking and the usual year end vacations.

To 1950 we all looked with a great deal of encouragement.

Market Analysis

Let us analyze this calendar. First: There was the trend to reduce prices. In all industries buyers were looking, talking lower prices and improved qualities. Secondly: Somewhere in the councils of the consumer, someone came up with the policy of reducing inventories. There was plenty of raw material. The inventories on hand in most cases were of poor quality. The consumer of our product was being pressed by his customers for a better finished product. So the policy was put into effect with a bang. As usual, it was carried too far. By August, September and October, mills realized that they did not have enough materials to handle a normal demand for their product.

This should have been evident to them. As they reduced inventories and refused to purchase our raw materials, it would follow that collectors, processors and gatherers of the waste paper industry would also be reduced. It was easy to figure out by anyone that we could not sell much. Too, prices had reached a level of the depression period of 1930. These two factors together added up to disaster. This realization woke up our consumers. Business began to improve and so did prices.

As pulp inventories were being depleted, at the same time consumers attempted to batter pulp prices down. Here, however, they did not have an industry as disorganized as ours. The breaking down of pulp prices did not proceed as rapidly as that in waste paper. This was a boon to our industry. The high grades of waste paper could supplement many of the pulp uses. Lower prices for the consumer product forced them to look for substitutes for their pulps. It was natural to turn to high grades of waste paper as that substitute. Here again, this condition sent them all to the markets at the same time. This caused prices to skyrocket to the extent that in some grades of waste paper the prices went higher than some of the bleached pulp grades. Meanwhile, the supply of bleached pulps was short in the market. Kraft was in heavy demand. Orders to consumers were on the increase.

An analysis would show, that in the main part, this was caused because mill customers had reduced inventories. They were now buying for current use and replenishing their inventories. By December 1949, our consumers were reaching the peak of their inventory requirements. We were facing the usual year-end shut downs, and prices in low grades were dropping. Less buying was evident. Once more the industry was in the doldrums looking for a Messianic age. What, therefore, is the solution?

Quality Must Be Maintained

I may venture to give my opinion—and it is only one man's. Quality must be maintained. This all reputable packers recognize.

Quality packings will sell. This is true, if in competition, with subgrade qualities, whether we consider low or high grades of waste paper. This, too, we recognize; and I am afraid consumers do not recognize. Qualities cannot be maintained or brought to where they should by the packer, collector and all concerned with the production, unless they receive a fair return for their labor. Yet if one analyzes this, prices in 1949 were about 1930 prices on the low grades. They were not too much better on the high grades. This with 1949 labor costs do not jibe; it does not add up. The end result—quality has to be forgotten if the packer is to at least try and make both ends meet. No one wants this. No one wants to write himself out of business. Yet we must all face facts—both consumers and producers.

Industry Stability Needed

We are in an economy of ever rising costs, whether we are in accord with it or not. When costs rise for one industry, usually they rise for others. No one escapes that evolution whether we believe it good or bad, whether we be Democrats or Republicans. And if you cannot escape the inevitable, you must seek ways to survive; and of all the ways in our industry, the easiest is to reduce the quality of the product. This does no one any good. So we continue to have peaks and valleys—no normal flow and no normal supply and demand. I believe if I were to ask the majority of users and producers: Do you believe in a controlled economy?—a loud cry would go up against it. But, actually, we practice a controlled economy when one day we produce waste paper and the next day we are out of business. The consumer does the same thing when he buys one day and doesn't the next day, based on artificial decision and policy.

An industry which becomes a football, as any worthy cause becomes a political football, soon becomes deflated and the bladder breaks into many pieces. You have to look for a new bladder. New bladders, while they may be made available, cannot, do not, and will not maintain qualities, if they, too, by the same process become deflated—which they must soon be if the paper industry in all branches continues as they have.

Finally, after many years of chart-

KAOLIN CLAY FACTS... *for Paper Makers*

NUMBER 2 OF A SERIES FROM THE J. M. HUBER CORPORATION LABORATORIES

Mining crude kaolin clay at Langley, S. C. Four modern Huber plants supply the paper industry with filler and coating paper grade clays.

WHY KAOLIN CLAYS FOR FILLER AND COATING PIGMENTS? The adaptability of kaolin clays for use in paper stems from such characteristics as softness of texture, freedom from harsh impurities, chemical inertness, a desirable brightness, a satisfactory ink absorption, and an easy dispersability in water and adhesive suspension. In addition, kaolin clays show a relatively low adhesive demand, inherent ability to produce high gloss, and those rheological attributes which permit the flow and application of highly concentrated clay systems to the surface of the paper. The varied and controllable particle size range is another desirable feature.

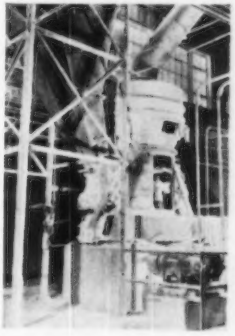
"AERFLOTED" FILLERS NOW EQUAL WATER WASHED IN LOW ABRASION VALUES. Air floated filler grade kaolin clays, manufactured by the J. M. Huber Corporation under the trade name, "Aerfloted" clays, now give abrasion results matching those of the best water washed fillers. Several years ago, water washed filler clays gave superior abrasion results, but the technique of refining Huber "Aerfloted" filler clays has advanced so far that there is now essentially no difference between the two types. "Aerfloted" clay, however, is less expensive.

ABRASION TEST OF FILLER GRADE PAPER CLAYS (Wire Loss)*

Huber Aerfloted Hi-White (Georgia)	15 mg
Huber Aerfloted Paragon (South Carolina)	16 mg
Huber Water Washed Filler (Georgia)	22 mg
Water Washed Filler "A"**	28 mg
Water Washed Filler "B"**	22 mg

*By the Valley Iron Works Abrasion Tester.

**These samples were obtained from mills using these grades regularly and are believed to be representative.



Air-flotation process takes place in a Raymond pulverizing mill with whizzer separator.

Determining the pH of clays at the Huber Clay Laboratory by a new high accuracy method.

CLAY CONCENTRATION HAS MARKED EFFECT ON pH VALUES, HUBER RESEARCH STUDY SHOWS. Using a method for the determination of pH values which is far more accurate than the conventional method, technicians in the Huber Clay Laboratories have discovered that pH values drop sharply as clay concentrations increase.

% Clay Concentration	pH
5	5.60
10	5.30
15	5.10
20	4.90
25	4.78
30	4.75
35	4.75
40	4.75

Coating clays, unless chemically treated after production, range in pH from 4.3 to 5.5. The pH of filler type washed clay is about 5.0. Air floated clays, depending upon the nature of the crude, range in pH from 4.5 to nearly 7.

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ing our industry, in all its phases and to the best of the writer's ability, this conclusion presents itself. Ours is a raw material, a very vital necessary material. We have spent many dollars to convince the peoples of these United States that this was so. Few believed it previously. Yet when we did this, the word "RAW" was reversed and spelled backwards. It read "WAR—a necessary WAR material." This was the case in World War I as in the World War II. What about all the periods and eras in between? Raw material? Hardly! A football—a new one used in each game; and the winner, if any, took the ball home, if a tie is a victory.

Summary

Therefore: to maintain quality and survive, the waste paper industry must recognize its problem. It must live, work and do its arithmetic in the age of 1940-1950.

The industry must be progressive. It must enter into research, if that be necessary, to find new uses for its product to stabilize the industry.

The waste paper dealers and their customers must recognize that their interests are mutual. Each is striving to perform a service at a profit.

Cotton Cuttings in Short Supply

ANTHONY NICOLETTI

President, Cotton Rag Council of National Assn of Waste Material Dealers

The manufacturers of rag content paper and the dealers handling new cotton cuttings will both go through a more strenuous period in 1950 because more synthetic fibers are being produced for wearing apparel than ever before.

It is known that the paper manufacturers are in a position to use more new cotton cuttings, especially white shirt cuttings free from synthetic fibers. Due to this invasion of synthetic fibers, the supply is insufficient. A long time ago, the cotton rag dealers became cognizant that synthetic fibers are a detriment to the manufacture of fine paper and have, therefore, tried by every means possible to segregate and eliminate all synthetic fibers from new cotton cuttings.

This problem requires constant attention by the cotton rag trade. To sort and eliminate synthetic fibers tests all available means of ingenuity. This very important factor in the cotton rag trade is adding to the labor costs.

Due to the continuing increase of new synthetic fibers, better grades of new cotton cuttings, especially white shirt cuttings, will again be in short supply this year. Another contributing factor is the expected 10 percent increase in 1950 fine paper production over 1949.

With this commodity reflecting general business conditions, and with the level at which business is starting for 1950, the picture is becoming more encouraging than it was at the end of 1949.

Michigan Supts. Announce Meetings

CHICAGO—The Michigan Div. of The American Pulp and Paper Mill Superintendents Assn., Inc., has announced the programs and dates for its March and April meetings.

The March meeting is scheduled for the 10th of the month at Hotel Harris, Kalamazoo, Mich. The time of the meeting is 6:30 P.M.

The speaker for the March meeting will be John C. Simonich, Director of the Industrial Relations Department, Kimberly-Clark Corporation, Neenah, Wis. His subject will be: Personnel Responsibility—With Whom Does It Rest. Mr. Simonich plans to treat of personnel problems encountered by superintendents and foremen, the personnel department, and executive management.

The meeting for April is being sponsored jointly by the Kalamazoo Valley Section of TAPPI and the Michigan Div. of the Superintendents Assn. in co-operation with Western Michigan College of Kalamazoo. This meeting, the date for which is the 6th of the month, is an all-day affair.

The morning, starting at 9:30 A.M., will be spent at Western Michigan College. The program at the College includes: Dedication of Pulp and Paper School, by Dr. Gerald Osborn; Dedication of Equipment donated by Industry —including the unveiling of a plaque inscribed with the names of donors; and Pulp and Paper School Open House with Dr. A. H. Nadelman, Head of the School, in charge.

The afternoon program is scheduled to start at 1:30 in Hotel Harris. That program is to be a forum on the graphic arts.

Papers scheduled for the forum follow: "Gravure's Place in the Graphic Arts Industry," by Joe Martin, Champlain Co., "Xerography and Xerographic Printing," by Thomas Liston, Haloid Co., and "Developments in Printing Inks," by Milton Zucker, International Printing Ink Co.

A dinner meeting will be held in the evening at Hotel Harris with Norman Bearse, Technical Director, Champion-International Paper Co., Lawrence, Mass., as toastmaster. The guest speaker of the meeting will be R. H. Simmons of the Government Printing Office, Washington, D. C. Mr. Simmons is to talk on Printers' Paper Problems. The meeting will close with a round table discussion.

Arrangements also are being made for certain mills to be open for visitation during the day of the meeting.

Jenkins Addresses Salesmen

BOSTON — Elmer Jenkins, general manager of the Boston News Bureau, was the guest speaker at a luncheon at the Parker House for the New England Salesman's Assn. of the Paper Industry. His subject was "New Developments in the Graphic Arts Industry."

Jenkins has served as president of the Boston Club of Printing House Craftsmen, chairman of Printing and Publishing Week of 1950, and former sales and service manager of the George H. Ellis Co. His printing background includes the composing room, press room and bindery, and he has been an instructor of printing in vocational schools. In having Jenkins as their guest, the association continued its policy of providing outstanding speakers from the various sections of the paper industry.

Richardson Named Editorial Director

WASHINGTON, D. C.—A former State of Washington newspaper writer and editor, Ronald Richardson, this week was named editorial director of American Forest Products Industries.

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Tariff Reduction and Currency Devaluation

Their Effect On The Pulp And Paper Industry

WILLIAM BECKETT
President of Association of Pulp Consumers

I feel safe in assuming that we are all mainly interested in whether tariffs will make us richer or poorer, and that we are not here to conduct a sterile analysis of the theory of tariffs in abstract terms, dealing with a set of hypothetical conditions and working toward an answer which, however logical it might be, would nevertheless be an abstraction. If we were here simply to conduct such a rational exercise, I imagine these ceremonies would be even more sparsely attended than they are.

I assume, also, that most of us come here with fairly fixed conclusions in our minds, and that these are not likely to be much modified by opposite views asserted in this paper or in any discusstion which may follow it. This is normal, and in no measure discourages me from the really agreeable task of marshalling here a few thoughts of my own and others in regard to the question. I always enjoy the opportunity for debate and discussion with my colleagues and competitors in the paper manufacturing business, but I doubt that any of the countless wise and eloquent points of argument given forth in such exchanges have ever had the slightest effect of changing any notions already established, although they may have given the spark of life to thoughts which had previously lain dormant. Papermakers are, no less than mankind everywhere, fiercely proud of their own beliefs, however wrong these may in some cases be, and are understandably reluctant to surrender to the assaults of argument even when based on the facts of experience and on reason. I am frequently advised by my associates and my family that I personally demonstate this kind of inflexibility to a remarkable degree.

Let me say, then, that I shall be neither surprised nor offended if I find that most of my listeners disagree largely or altogether with any original or borrowed ideas in this little discourse. Indeed, if there is absence of disagreement I shall feel disposed to charge it almost entirely to lack of attention among my audience.

The question of tariffs is always fresh and active, for any tariff, or the lack of any tariff, or a change in the size of any tariff, can be argued for or against at any instant by some interested group which may suffer in one case or benefit in another. I am strongly persuaded by the fundamental argument for free trade, because I feel in the long run that free trade stimulates efficiency and production and creates wealth, whereas tariff barriers have the ultimate effect of restricting exports, and at last always work to the disadvantage of the consumer, even though the protected industry itself may benefit, at least for a while. The American, that is the United States, paper industry is now faced with the further reduction of duties on paper imported into this country from abroad, which means mainly from Canada and the Scandinavian countries together with Great Britain. The question is fraught with interest to us whose pocketbooks will be immediately affected, and to the whole community of citizens as well, for a tariff on *any* imported product affects employment and prices in all other lines, to some extent.

The advocates of free trade are perhaps inclined to give too little weight to the immediate effects of eliminating or drastically reducing an existing tariff. Regardless of the possible error in the original imposition of a duty on any imported commodity, we should give our earnest regard to the damage or ruin which may be caused by suddenly lifting a tariff to which an entire industry has become adjusted, and on which wage scales, investments, and commitments on the repayment of debt have been set up.

There also are the special case tariffs, such as those designed to generate revenue or to maintain industries which would be needed on short notice in case of war. Finally, there is the corollary argument that sometimes the availability of a product made at home, even at slightly higher cost than if imported duty free, is an advantage because of speedy delivery, self-sufficiency of the nation in time of crisis, and the maintenance of skills at home which otherwise might become the exclusive possession of foreign makers. These questions must be balanced against the ideal of the ardent free-traders, which is the removal of every tariff barrier.

Adam Smith's Case

Let us consider the arguments for free trade. Adam Smith, a keen Scotsman of the eighteenth century, wrote with such clarity and inspiration that his great treatise of 1776, entitled "Inquiry Into The Nature and Causes of the Wealth of Nations," is now regarded by serious students of economics as the foundation of the modern science of political economy. Adam Smith's case for free trade has probably never been improved upon. One of his basic propositions was that free trade encouraged the specialization of labor as a departure from the primitive system of individual self-sufficiency. The specialization of labor is efficient, making the products needed by man not only cheaper but available to everyone according to his need and willingness to pay. Adam Smith said:

"It is the maxim of every prudent master of a family never to attempt to make at home what it will cost him more to make than to buy. The tailor does not attempt to make his own shoes but buys them of the shoemaker. The shoemaker does not attempt to make his own clothes but employs a tailor. The farmer attempts to make neither the one nor the other, but employs those different artificers. All of them find it for their interest to employ their whole industry in a way in which they have some advantage over their neighbors, and to purchase with a part of its produce, or what is the same thing, with the price of a part of it, whatever else they have occasion for. What is prudence in the conduct of every private family can scarce be folly in that of a great kingdom."

I think we can agree that the immutable principles of economics and

Presented before the Open Meeting of the American Paper and Pulp Assn., New York City, February 23, 1950.

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arithmetic are very simply and forcefully demonstrated in the financial experience of every family. It is in fact a result of lessons learned in family life that we all recognize such fundamental and inexorable truths as that, if spending very long exceeds income, disaster will follow. No doubt we can justly reason that this principle applies also in the conduct of the more complicated affairs of business intercourse, and in the even more complicated affairs of government, although in the last instance this law is more honored in the breach than in the observance, for obvious reasons. At any rate, Adam Smith's proposition is sound and true. And so is another statement from his book: "In every country it always is and must be the interest of the great body of the people to buy whatever they want of those who sell it cheapest."

Let us consider that the British umbrella industry sells umbrellas in this country for ten dollars each, duty free. An American industry, in order to go into the business of making and selling umbrellas in this country goes before certain committees of Congress, and to the State Department, and argues that in order to make umbrellas of equivalent quality, pay wages comparable to the established wages of American industry, and make a profit, they must charge fifteen dollars for an umbrella, and therefore a duty of five dollars on British umbrellas is necessary in order to permit the establishment and survival of the American umbrella industry. The government is convinced, the duty is imposed, and the American makes and sells umbrellas. A new factory is built, workers are hired at wages approximately equal to the prevailing industrial wages in America, and American umbrellas are sold to the exclusion of the British goods. The American umbrella maker can point to the fact that American consumers can now buy a home-made umbrella which is as good as the former British product, that a new industry operates where none existed before, and that wages are being paid to thousands of workers in this new industry. It looks very much like an improvement, and the American manufacturer makes free to say so in all sincerity and great enthusiasm.

The free-trader takes a less jubilant view. He points out that the American consumer was forced to subsidize this new industry to the extent of five dollars for every umbrella made and sold here, and that as a result, every umbrella consumer has five dollars less to spend on something else made in America; so that in order for the umbrellas industry to come into existence a hundred other industries must shrink. Thus, for ten thousand persons to be employed in the umbrella industry, ten thousand must lose employment in others, and must either accept new employment at a lower level of skill and pay or learn a new skill, in order to be employed at the same level as before. But these very workers are also the victims of the five dollar tax on umbrellas, and must reduce their expenditures on other necessaries by five dollars in order to pay the protected price of the American industry. Thus there has been no net increase in the country's employment or purchasing power, even though the workers in the protected industry may be working for approximately the wage level of American industry, rather than for the British level, which is of course lower; for the general American level would be lowered as a result of the tariff on umbrellas. The amount by which other industries would shrink would be small in individual cases, and would be impossible to measure accurately in any case, but the total would equal the amount by which consumers of umbrellas were forced to subsidize the umbrella industry. There is no telling where the purchaser of each umbrella would have spent the extra five dollars charged as a result of the tariff if he had not had to pay it, thus there is no way to gauge which other industry is most affected; but the effect is there.

Specialization of Labor

Now Adam Smith's argument for the specialization of labor in the field where the producer of a product has a special advantage of skill comes into the case. Here in the tariff-protected industry, the free-trader finds that American labor, capital, and land are deflected from what they can do more efficiently to what they do less efficiently, so the average productivity of American land, capital and labor is reduced by the tariff. He reasons that only under the compulsion of competition does any enterprise attain the fullest measure of efficiency, and that when protected or subsidized, any industry gives less regard to waste and sloth. We must admit that has been shown to be true in some cases, as in the building trades, where some unions have a monopoly on the services of bricklayers and other artisans, and in cases where an industry is doing business with the government on a cost-plus basis.

Tariff Elimination Examined

The free-trader now examines the effect of removing the tariff after it has been operating for some time. He admits that when the tariff is removed (we shal' assume it is altogether eliminated and not merely reduced) it puts the domestic manufacturer out of business, and thousands of umbrella workers are laid off. The merchants with whom these workers traded are hurt by the loss of purchasing power of these workers so long as they are out of work, and a disaster appears to have occurred. However, this does not really describe the results of removing the duty, according to the free-trader. He points out that every buyer of a ten dollar umbrella from Great Britain now has five dollars left over with which to buy something which he could not otherwise have bought, and a hundred industries in this country benefit from this, consequently employing more workers. At the same time, the British umbrella industry prospers, and the British have a new supply of American dollars, with which they can do nothing but buy goods made in America, or perhaps buy the currency of some other country in which ultimately the dollars will have to be spent spent for American goods. So, as a result of letting in more British goods, we send out more American goods. And, although fewer people are employed in the American umbrella industry, more are employed in a hundred other industries, and are more efficiently employed, which increases the net productivity of labor, capital, and land, and increases American wealth. Labor in each country is more fully employed, and each country is doing those things which it does best and most efficiently. In both countries, consumers are better off, being better supplied with umbrellas in America and with American motor cars and washing machines in Great Britain.

It is easy to extend the reasoning of the past few minutes beyond the consideration of only one foreign country and only one imported product. Obviously there are hundreds of products besides umbrellas to which the same arguments could be applied, and scores of countries are eager for world trade. Obviously, too, the argument works both ways, and it will be found that in *every* country there are industries seeking the protection of tariffs against foreign competition. Thus the so called protection of a tariff against the importation of umbrellas into this country is offset by the corresponding barrier of a tariff against many other products, or, indeed, against umbrellas also, made in America for sale in Great Britain. The net effect is no advantage to anyone, and in fact a very real disadvantage to the ultimate consumer, since the products he buys are overpriced by the amount of the tariff and by the additional factor of inefficient production which comes into play where an industry is subsidized against the urgent drive of competition.

The free-trader at this point is still operating well within the realm of logic and fact, and still straining steadfastly toward the aim of maximum interchange of goods and services among friendly, prosperous nations, and of the lowest cost to the ultimate buyer. He tells us that he is aware of the problem of the American paper industry, and I believe he is. He convinces us that the economy of the whole national community, and indeed of the whole community of nations, is healthiest when trade is free. He points out that when business in general is good, paper is in greatest demand, and profits in our industry are highest, or, as perhaps I should ask him to say, least low. When our customers enjoy brisk business, they buy our product; when their trade declines, so does ours. Therefore, he urges, cancel out all tariffs, and we shall raise ourselves to a new high

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level of strong demand and good prices in the paper industry.

At this point I reluctantly take leave of the ardent free-trader for a while. I have enjoyed his company, and I admire his morals, for he and I have our eyes fixed on the same shining ideal. We both believe the greatest wealth is created for all when everyone is busiest at what he can do best, and when the product of every man's labor can be bought for the least price that competition can afford. We feel that in this direction we shall discover how to sell the greatest quantity of American goods in all the countries around the world, and develop a firm and loyal community of interest with prosperous competitors in free lands everywhere. We see the same reasons for free trade among the nations of the earth as for free trade among the States of our union, and I don't think anyone is going to propose to disestablish that.

Let us now give some regard to the exceptions which constitute the argument of the American paper industry against the reduction and, certainly, against the immediate elimination of the tariffs on paper and paper products imported here from Canada and the Scandinavian countries.

Tariffs and the Paper Industry

First of all, paper is so indispensable to modern American life that it is impossible to imagine how we could do without it even for a few hours. It is no less necessary to our way of life and our standard of living than food, clothing, and shelter, and is in addition the only daily necessity in the same class with these three which cannot be produced by the individual himself. It is the great sine qua non of the modern era without which every commercial enterprise, every educational institution, and every government process would immediately cease. Without paper you could not go anywhere, ship anything, buy or sell anything, write anything, communicate with anyone beyond the sound of your voice, or make anything except on the most primitive level of barter and laborious hand production. Should we not, in the case of such an important commodity, be self-sufficient, or nearly so, against possible emergencies such as war? The answer is that we should, and fortunately, at present we *are*, except in the case of newsprint. In this case we are somewhat protected from dearth by the fact that our great neighbor to the north, Canada, is able to provide a continuous flow of newsprint, shipping in all seasons overland, by waterways, and by coastal freight boats. Since it is unthinkable that our relations with Canada should ever be anything but amicable, we feel reasonably secure with respect to the supply of newsprint, even in time of war.

Even this favorable situation is not so good as real self-sufficiency; and it is recalled by everyone that although in 1911 the United States had seventy newsprint mills, today there are only three making newsprint exclusively for sale. Of the others, about half passed out of existence and 34 adapted themselves of necessity to the production of other grades of paper. This is felt to be the direct result of reciprocal trade negotiations under which newsprint was placed on the free list in 1913.

It must be realized that the immense paper industry in this country, with assets of nearly five billion dollars, is composed of a multitude of competing units, so that competitive drive would not be lacking even were no foreign production to be imported into this country. In fact, the competition in the U.S. paper industry is so fierce that it is notorious for being always in a profit position far below that of other major industries. An income survey reported by the A.P.&P.A. for the years 1934 to 1945, inclusive, showed that our industry earned a profit of over 5 percent of total assets in only two of those twelve years. (The years 1934 and 1935 showed a loss, and the high point was in 1941 when a peak of 7.24 percent was reached.)

The total value of the annual production of the paper industry is only about equal to its investment, on the present price structure. In this respect, also, the paper industry is struggling with a problem more difficult than any other major industry. (In steel the annual product is valued at more than three times the investment.) In the paper industry the investment is so great in massive heavy machinery that, by reason of the competition which has brought prices down to an irreducible minimum in terms of present wage rates, it must operate at more than eighty percent of capacity merely to break even on its overhead. If falling demand reduces operation below this high ratio of production to capacity, there must be higher prices to compensate and to prevent a totally indispensable industry from operating at a loss. It is axiomatic that it is not, in the long run, good for the ultimate consumer to pay less than the cost of production for his necessities, or they will at last become very expensive or even unavailable, as bankrupt and discouraged producers abandon the field.

Paper production techniques are no better in this country than elsewhere. Since machinery is the same in Sweden as in Massachusetts, we can have no advantage in the form of special ability, as does a mass-production industry such as the motor car industry, for example. Thus, the determinant of cost in producing paper anywhere in the world is the wage scale paid. This is true from the logging and woodhandling process upward through finishing and shipping. Since the highest wage rates in the world prevail in the United States, it is possible for some competing countries to ship paper into the U.S. at less than our cost of production.

Tariff Reciprocity Needed

If the duty rates on grades of paper shipped into this country are to be reduced, there should be a corresponding reduction in the rates on the same grades shipped in the opposite direction to other countries. This not only appears eminently fair, but essential to the development of the export business which we must have to keep the dollars coming back home after they have found their way by various means into other countries.

The pulp and paper industry of the United States is the largest importer of foreign commodities, and is thus the largest contributor to the supply of dollars in world trade. In 1948 we imported more than three quarters of a billion dollars of pulp and paper materials.

The immense investment in the U. S. paper industry, totaling nearly five billion dollars, should in no part be sacrificed to raised the standard of living abroad. We want to do our share, and a very large share indeed, toward restoring the prosperity of countries abroad, but we cannot do this adequately if our own economic position is impaired.

The history of tariff adjustments on paper and paper products imported into this country since the Underwood Act of 1913, has been that duties have declined to about half the level of protection provided by the Underwood Act, while the levels of duty on other major commodities besides paper have been held at a much higher level.

Furthermore, there has been nothing like true reciprocity since the first reciprocal trade agreement negotiated by this country placed newsprint on the free list. Concessions made by other countries have been far less than those made by the United States, and have in some cases not been nearly so liberally applied in their administration.

Study on Further Reductions

All things considered, it is fair to contend that further reductions in tariffs should be made in small degree, and that ample time should be allowed to study the effects of a reduction before any further reduction is applied. This precaution should, if performed with prudence and discernment, prevent severe damage to any segment of the industry due to massive shock, and should permit those portions of the industry which feel that undue foreign competition has been encouraged and supported by the reduction of tariff, to summon up their arguments and present their case.

Effects of Devaluation

The effects of the devaluation of the currencies of many countries last September must be weighed with the matters we have just surveyed, in order to arrive at some appreciation of the shifts in trade volume and commodity

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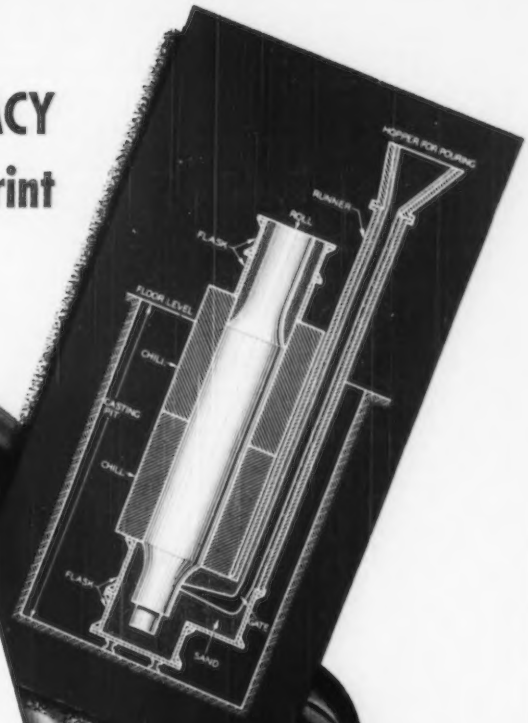

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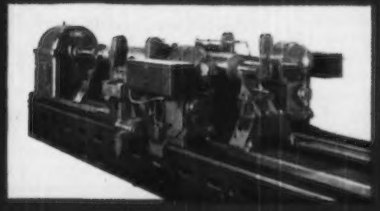


Farrel-Birmingham

prices which have occurred and are likely to occur. Believe me, it is very difficult to determine the facts for any instant; and even more difficult to interpret them in terms of tariff reduction, devaluation, or the many lesser forces at work at any given moment in the vast complex of world trade and world politics. The statements of responsible men in various countries where currency was devalued last September are by no means consistent with one another, for the emphasis in every given opinion is naturally on the difficulties of the country represented by the person giving the statement; and it always appears in these statements that everything which has happened is disadvantageous to that country, or if it is not, the benefits and advantages to another country are greater, and that this is regrettable.

Some of the effects of devaluation are fairly certain. For one thing, in a country like Canada, from which a large and stable flow of paper and pulp products to the United States has continued unabated since devaluation, a sudden profit of more than eleven percent was created. Canada was in a favorable position to sell her woodpulp, for instance, in this country even before inflation, for her productive apparatus is as efficient as ours and her wage rates are not so high. Now she has the increment of 11.29 percent representing the increase in the value of United States dollars in Canada. In other countries the increment is much higher.

In Sweden, we are advised by Dr. Gunnar Sundblad, Vice President of the Swedish Cellulose Association, devaluation has brought about reductions in the price of pulpwood in Sweden to the point where material costs of the Swedish cellulose industry, to a reasonable extent, correspond to those in the U. S. A. Dr. Sundblad notes with satisfaction that this has enabled his group to resume trade with converting mills in this country; and we reciprocate his satisfaction. We may take it from this that the increased attractiveness of U. S. dollars will stimulate a greater flow of woodpulp sales from Sweden to the United States, as it has certainly done in the case of Finland, and to a lesser extent, Norway.

I may say that if the effect of devaluation continues to be in the direction of more substantial supplies of Canadian and Scandinavian woodpulp in the U. S. it will, of course, redound to the advantage of the converting mills, who always suffer keenly when the world supply of market woodpulp is diverted to other markets and a shortage results. Thus from a purely selfish point of view, the members of the non-integrated segment of our industry may regard devaluation as having helped them, as I am sure it will continue to do. Whether the price of foreign woodpulp will decline as a consequence, and whether this will be a blessing or will precipitate forces which will cancel out the benefit, remains a question to which we shall not have the answer for some time however much we may speculate.

Devaluation will to some extent alleviate the hurtful effects of reducing the tariff on paper imported into the U. S. from Great Britain. For instance, since British goods are already, as a result of devaluation, cheaper in other markets, these are being exploited and developed with success by English manufacturers. To what extent British exports to these markets, including Canada, will replace U. S. goods is not yet plain; but since our national policy and business philosophy recognize the benefits to the U. S. in restoring strong and steady trade currents among other nations of the world, we must not let this additional competition in overseas markets distract our thinking from the eventual gains to be had by all the world as British and other European goods find buyers in other lands.

In the case of Canada, we read in the "Business Abroad" section of *Business Week* for February 4 the opinion that Canada's major trade objective is to switch a big part of her imports from the U. S. to Great Britain. The Canadian Dollar-Sterling Trade Board has set a trade goal for Britain to achieve, hoping Britain will increase its sales to Canada in the next two years by 50 percent of the increase of U. S. sales to Canada since the beginning of the war. Whether some paper specialties will appear among these British sales to Canada is not clear; but the major types of goods will be machine tools, cotton fabrics, chemicals, nonferrous metals, and processed food.

World Economic Picture

It has been impossible in this short general discussion of some of the greatest economic forces and movements to give any thought to the arbitrary actions which various governments are from time to time disposed to take in order to control prices, establish quotas, regulate wages, ration goods, and in other ways vastly to influence the ebb and flow of trade between countries.

The economic effects of political maneuvers and successes cannot be clearly envisioned, but they will be great. It is difficult in the prevailing circumstances to say to what extent, or even in what direction, the last election in this country or England or Canada or anywhere else affected the price and supply of the things we buy. But there is no question that the effect is there. I am sure each of us believes this, because we are usually seriously concerned about the election of our own candidate and the defeat of the simpleton or the villain opposing him.

Some of the matters we have considered here are beyond the power of any of us, or even of all of us, to do very much about. We had better not worry about these matters, but work hard and do the best we can. Where it is possible to better the situation with arguments, we shall do well to argue as hard as we can before the men whose action can help us.

The picture will come into focus with the passing of time, and we must be patient in some things. Meanwhile, we shall in some degree remain uncertain whether tariff-and-currency adjustments have done what they were intended to do. At the same time we must admit we are not even sure just what they *were* intended to do, for all parties to international economic plans and actions do not have the same purpose, we may be sure.

Proposed Arkansas Mill

J. R. Bemis, Ozan Lumber Co., in response to an inquiry by *Paper Trade Journal*, has said that plans have not sufficiently crystalized to make any statement.

Western N. Y. T.A.P.P.I. Meets

NIAGARA FALLS, N. Y.—The regular monthly meeting of the Western New York Group of the Technical Association of the Pulp and Paper Industry took place Wednesday, February 8th at the Prospect House in Niagara Falls, N. Y. Approximately 50 members and guests attended the meeting presided over by Dr. Joseph S. Reichert of the DuPont Co., Niagara Falls.

Dr. Reichert introduced Burgess Johnson, Life Scout, who spoke briefly on the 40th anniversary of the founding of the Boy Scouts of America. Jack Rudolph of Kimberly-Clark introduced the moderator for the panel discussion, Paul Kuhnel superintendent of Kimberly-Clark Paper Mill. Mr. Kuhnel introduced the members of the panel, who discussed paper machine felts.

Members of the panel included Howard Brown, Lockport Felt Co.; Larry Woodside, Albany Felt Co.; Irving Peters, F. C. Huyck & Sons; and Fred Parkinson, H. Waterbury & Sons.

Each member of the panel discussed some phase of felt making and felt usage in the paper industry. Following the brief presentation by members of the panel an open discussion was held on the uses of felts in paper mills.

Niewenhous Chief Forest Advisor

NEW YORK—The National Security Resources Board announced on January 23, that Mathias Niewenhous has been appointed chief advisor on Forest Products to the N.S.R.B.

Mr. Niewenhous was deputy director of the Lumber Division in W.P.B., and remained with the successor agency of the C.P.A. as director of its Forest Products Division during the reconversion effort.

Labor's Interest in the Pulp and Paper Industry

JOHN P. BURKE

President-Secretary of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers

The subject of my address is *Labor's Interest In The Pulp And Paper Industry*. I am informed that there are five hundred thousand workers who earn their livelihood in the primary pulp and paper and converted paper products industry. I think we can safely assume that these five hundred thousand workers have a very great interest in this industry; and why shouldn't they?

There is nothing very much more important to any worker than his job. A man's job is a very great part of his life. To a man without a job life has very little meaning and almost no purpose. Nothing is more pathetic than a jobless man, a man who is willing to work but who cannot find employment. Some day some poet may compose a poem or some writer may write a story or some artist may paint a picture depicting the plight of the jobless man in such a striking manner that it will arouse the conscience of the nation.

One of the very best things about the pulp and paper industry is that it furnishes employment to half a million workers. Another good thing about this industry is that this great army of workers is employed in making products that satisfy a social need. Because this industry makes products that satisfy the needs of human beings and because the needs of human beings for the products made by this industry are constantly increasing, this is an expanding industry that requires the services of more and more workers.

These workers are fortunate in working in an industry that furnishes employment that is steadier than in most industries. They are fortunate in working in an industry where the hours of labor are forty or less a week in the United States and forty-eight or less in Canada. They are fortunate in working in an industry that pays good wages, where consideration is given to the life and health and safety of the workers, and where they are insured against the major hazards of life, and where, in recent years, old age retirement plans have been adopted by most companies, which will help, in a measure, to remove from the minds of the workers the fear of a dependent old age.

I think that something can be said, too, about the opportunities for advancement in the pulp and paper and converted paper products industry. Today, when young men and women obtain jobs in this industry they earn good wages right from the start; and there are many opportunities for them to work up to better paid jobs.

A surprisingly large number of hourly paid workers in this industry have worked up through the ranks to positions in the personnel departments, in the sales departments, and even to executive positions with many companies. It is not unusual for men to come up from the ranks and become mill managers. A few years ago, while we were having negotiations with the Abitibi Power and Paper Co. it was brought to my attention that every man on the company's side of the table had, at one time or another, carried a union card in either the International Brotherhood of Paper Makers or the International Brotherhood of Pulp, Sulphite and Paper Mill Workers. I think this is a pretty good illustration of how this industry has made it possible for hourly employes to advance themselves to positions of great responsibilities in the mills of many companies.

Another advantage for the workers in the pulp and paper industry, insofar as the workers are concerned, is the fact that their right to organize into unions and bargain collectively with their employers is now accepted, without reservations, by the managements of nearly all companies.

Of the 500,000 workers in this industry there are at least 250,000 who are members of unions. Most of the 250,000 who are not members of unions are employed in the various converting branches of the industry. There still remains a small number of manufacturing companies where the workers are, as yet, unorganized, but I expect that eventually all the workers in the manufacturing mills will be organized as will the greater part of the workers in the converting plants.

I think all of you know that the two principal unions in the primary pulp and paper and converted paper products industry are the International Brotherhood of Paper Makers and the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, both affiliated with the American Federation of Labor. Both of these unions have been constant in their loyalty to the principles of trade unionism as expounded by Samuel Gompers, the centennial of whose birth is being celebrated by labor this year.

Although there are two International Unions in this industry, questions of jurisdiction between them have not been a disturbing factor for the past forty years. These two International Unions conduct organizing campaigns together. They hold joint negotiations with the employers. They sign joint agreements. The relationship between the officers of the International Brotherhood of Paper Makers and the officers of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers is very friendly and cooperative. The policies and the objectives of both International Unions are very much alike.

Perhaps I should dwell a little upon the policies and the objectives of these two unions. Foremost among the policies and the objectives of the two are: to organize the workers coming under their respective jurisdictions into clean, constructive, and democratic unions; to secure for their members a progressively better standard of living as the productivity of the industry increases; to work with the managements of all companies (where we have union agreements) for the betterment of the industry where our members earn their livelihood.

We have had very few strikes in the pulp and paper industry during the past dozen years, and the reason for this is that management and labor in this industry have tried and are trying to cooperate with each other, and they have tried and are trying to settle their differences around the conference table rather than upon the industrial battlefield.

We had many strikes in this industry in the old days. Both the employers and labor suffered great losses because of those strikes. We now are trying cooperation in place of strikes and we find that it is profitable—profitable to the employers, profitable to labor, and profitable to our country as a whole. I think I shall live to see the day when strikes in the pulp and paper

Presented before the Open Meeting of the American Paper and Pulp Assn., New York City, February 23, 1950.

and converted paper products industry will be few and far between, not because Congress has passed anti-strike legislation, not because of compulsory arbitration laws, and not because of the Taft-Hartley law, but because industrial management and union labor as represented by the International Brotherhood of Paper Makers and the International Brotherhood of Pulp, Sulphite and Paper Mill Workers have made it possible for the workers in this industry to earn such good wages and to have such good working conditions in the mills and factories that strikes will not be necessary. We are going to outlaw strikes in this industry by outlawing the conditions that make for strikes.

I do not claim that we have ushered in the millenium in the pulp and paper and converted paper products industry. We have not solved, in its entirety, the problems of good labor relations. I think, however, that we have made some worthwhile beginnings. There may not be any perfect solution of these problems; but it is possible to improve labor relations in industry. It is possible to bring about a better understanding between employers and workers. It is possible to lessen the number of strikes in industry. It is possible for social science, of which labor relations certainly are an important part, to keep more nearly apace with the great advances made by the physical sciences.

We are living in an epoch where man has conquered the air and released the power heretofore locked within the atom. We are living in an age when a new world of physics and chemistry and biology has been unveiled, a new world that holds forth a promise of material abundance almost without limit. These advances in the physical sciences make it possible for mankind to think in terms of abolishing poverty and want. Today, more than ever before, enlightened industrial management and farsighted union leadership must work with the great forces of evolution. Labor relations in industry must constantly adjust themselves to fit into the new pattern that social and industrial evolution make necessary.

I think that one of the reasons that the pulp and paper industry has such an attraction, aye, almost a fascination for so many workers is that management of so many of the mills and the unions have done so much pioneering in the field of labor relations and have found the answers to so many labor problems.

If I were asked what I consider the greatest change that has taken place in the pulp and paper industry during the time I have been president of this International Union, a period of thirty-three years, I would not cite the increases in wage rates, the shorter work week, the improved working conditions, vacations and holidays with pay, group insurance, or old age retirement plans, all of which represent great milestones in the forward march of labor. But I would cite the changed attitude of the employers toward the unions as the greatest single change that has taken place in this industry in the past thirty-three years.

I think that many union leaders fail to give sufficient consideration to the revolution that has taken place in the social and economic thinking of the employers in this country. Trade union leaders should try to instill confidence in the trade union movement in the minds of the employers. If the employer still harbors in his mind thoughts of fear about the union, it is the task of the union leader to eliminate that fear by showing him that the union wants to work with him and his company and not against him and his company.

In the development of good labor relations in the years to come both management and labor must understand that forces beyond our control, forces beyond the control of even our government, will have an important part in determining our course of action in the years to come. We do not have to be fatalists to know that the world of today is in the grip of forces that are leading us we know not where.

This reminds me of a quip of Clarence Darrow in a debate with a noted philosopher. In the latter years of his life, Darrow became very cynical about the human race and the worthwhileness of life. However, Darrow's cynicism was always tinged with humor, which saved it from being too harmful. Anyway, he was debating with this philosopher on the question of whether or not life was worth living, Darrow taking the negative side.

In one of his rebuttals his opponent painted the beauties of life and said that he gloried in the fact that man has a free will and can carve out his own destiny; and he ended up by quoting a sentence from Henley's "Invictus:" I am the Master of my fate, I am the Captain of my soul.

When Darrow's turn came for rebuttal he thrust his hands into his pockets in a characteristic pose and looked at the audience and then looked at his opponent and then looked at the audience again and said: "My distinguished opponent says that he is the master of his fate, the captain of his soul. Then, very sarcastically, Darrow said: "The captain of his soul. Why he ain't even the deck hand."

I am sure that if Clarence Darrow were alive today he could cite the present condition of the world as proof that we poor mortals are not even deck hands so far as being masters of our fate is concerned.

In viewing this world of today we can see that all of the people in America, irrespective of race, creed, color, or economic status, are in the same boat. We must stand together. During the fateful weeks and months and years that are ahead of us it should be the objective of the owners and the managers of American industry and the millions of organized workers employed in American industry to find a modus vivendi for industrial peace. This industrial peace must be based upon justice, good will, and mutual faith and confidence. We must not depend upon legislation to develop good labor relations in industry. We must not expect our government to do for us what we should do for ourselves. We must not wait for a hydrogen bomb to awaken us to the fact that we are living in a new age. In this new age we must think in new terms and put our own thoughts into action. In the words of the poet:

New occasions teach new duties; Time
makes ancient good uncouth;
They must upward still, and onward,
who would keep abreast of Truth;
Lo, before us gleam her camp-fires!
we ourselves must Pilgrims be,
Launch our Mayflower, and steer boldly through the desperate winter
sea,
Nor attempt the Future's portal with the Past's blood-rusted key.

Unemployment Benefits For Loggers

OTTAWA—A report here hints that a proposal to extend Canada's unemployment insurance benefits to workers in logging or lumber camps from coast to coast is going to be considered by the Canadian Government. In view of the widespread unemployment in logging operations this year, this plan is arousing much interest in logging industry.

The plan would aim to bring the logging and lumber industry in the nine provinces into line with British Columbia loggers who have been eligible for the benefits for approximately three years. As a result, between 25,000 and 50,000 bush workers may be brought under coverage of the Unemployment Insurance Act of Canada, if this proposal is looked upon with favor by the Federal Cabinet.

The provisions of the Act were extended to cover loggers in British Columbia's big lumber industry which is operated on a year-round basis, making such a scheme possible. However, loggers in the other provinces were not covered because a vast majority of the workers operate only on a seasonal basis in these sections of Canada. The proposal is expected to bring in year-round loggers under the Act and still exclude seasonal workers, particularly such as farmers, who sometimes accept work for one or more months during each winter in various logging camps and go back to their farms later.

Newfoundland Woodsmen May Strike

CORNER BROOK, Nfld. — Canadian press dispatch of January 21 reports that some 10,000 Newfoundland woodsmen may strike because of a proposal that they accept a wage cut of five cents an hour. The cut was proposed by the Woods Labor Board, representing government, the newsprint mills, and labor officials to bring rates more in line with those paid on the mainland in woods operations.

Where Do You Go From Here?

HOLCOMBE PARKES
Executive Vice President, Apex Film Corp.
before the Salesmen's Association of the Paper Industry

Where do you go from here? Frankly, I don't know. All I'm sure of now is the road you're on—and that you've been traveling down this road for a long time and for a great distance.

That's not a personal opinion. Do you recall this challenging statement made recently by a truly great American—

"Our nation is blissfully driving down a back road at top speed . . . we're on the last mile to collectivism." Herbert Hoover said that. Any Republicans here?

Or this one, by another great American—

"We are going down the road to statism. Where we will wind up, no one can tell, but if some of the new programs seriously proposed should be adopted, there is danger that the individual — whether farmer, worker, manufacturer, lawyer or doctor (and I might interpolate—paper maker or paper salesman)—will soon be an economic slave pulling an oar in the galley of the state." Jimmy Byrnes, former secretary of State and former member of the United States Supreme Court, said that. Any Democrats here?

And here's another—

"Today's challenge to freedom and to every free institution is such that none of us dares stand alone. For human freedom is today threatened by regimented statism. . . . In today's struggle no free man, no free institution can be neutral." General Eisenhower said that.

With Republicans and Democrats agreeing about the road we're on; with a growing recognition that we are near—or at—the "point of no return"; and, with evidences accumulating every day of a great public awakening to the *direction* of our travel as a nation, it becomes tremendously important that we make every possible effort to find some answer to the question, "Where do you go from here?"—

And that's primarily why I'm here today. Not to *tell you* where you go from here, but to learn *from you*—where we go from here. For the one and only answer to this question is in your hearts and minds—in your individual and collective understanding and courage; in your will-to-do and your united strength to carry out that will—*or* in your individual and collective blindness and weakness; your apathy and disunity.

It makes no difference whether you want to answer this $64 question or not. There is no escape for a single person in this great hall. What you think and say and do or what you don't think and don't say and don't do formulates the answer—the *final* answer that will determine, not only the future of our beloved country, but the future of the world as well, for the stake here is no less than the preservation of human freedom in times that are already darkened by the black clouds of collectivism and human slavery.

* * * * *

I was greatly impressed not long ago by an analysis of the strategy of those who would remake America in the image of the Collectivist State. It was written by Fred Eldean, a very successful public relations consultant here in New York City. This is the way the leftists appraise what they call the "weaknesses" of industry for their strategic purposes:

Industry seldom acts until the heat of a direct attack is on, therefore industry will always be on the defensive.

Industry, because it is represented largely by strong men trained in the atmosphere of a competitive economy, will never be able to "get together" or agree on any program—not even one of defense.

Industry—or its people—are too impatient to support long-range activities, therefore even if a semblance of industrial unity could be achieved, any program devised as a result will "fall apart through erosion, division—or explosion."

Industry, because it is concerned primarily with tangible goods and services, neither understands nor will deal for long with the *intangibles* that characterize the area of public opinion and human behavior.

And finally, industry will always be reluctant to delegate authority and responsibility to specialists in a field (public relations) where every business man sincerely believes he is an expert.

Could this appraisal apply to the pulp and paper industry of today? Is your industry complaisant because the heat is on some other part of the industrial machine? Are the in-growing thoughts of "rugged individualism" and selfishness dividing your house and blocking cooperative effort? Are the leaders of your industry *afraid* of intangibles—and of those who have been trained to deal with them? I do not have the means to judge—but *you know!* You know the answer to every question I've asked. All I can say is that, if even a part of this analysis applies to your industry, it is past time for you to:

Attain a degree of solid industry-wide unity that will enable you to act in concert *before* you become the object of direct attack—and remember, *no* industry is immune from attack; and,

Second, organize to deal effectively with these so-called intangibles of public relations—by means of a long-range public relations program tailored to fit your particular needs and conducted, without undue interference, by those who are really expert in this new profession.

Thus we see that *part* of the answer to "Where do you go from here?" lies in the degree to which *you* can now, or will in the future, disprove every one of these pinko assumptions —if they apply to your industry.

* * * * *

I wish that I had time today to make some specific suggestions on this challenging subject. I wish that I had the knowledge of your industry and your problems that would permit me to "blueprint" such a program for you.

Having neither the time or knowledge, I must confine my contribution to the mention of a few bench-marks that may be of use to you.

In whatever you may do as your part in today's epic struggle for men's minds remember these fundamentals:

Man after man, company after company, industry after industry have already answered the call to arms that was so eloquently echoed by General Eisenhower when he said that "in today's struggle no free man, no free institution can be neutral." In whatever you may do therefore, you can depend on generous help from many quarters. Use this help in your planning and in your operations.

Public relations must always begin at the top—in the minds and hearts of those occupying positions of trust and responsibility. Unless all the leaders of your industry are willing to get behind—and stay behind—some coordinated and cooperative effort, forget the whole idea—and get what pleasure you can while you ride down the "last mile to Collectivism," as Mr. Hoover so aptly describes it.

There is no patent medicine in this business of public relations; no cure-all; no pat list of things to do. Every public relations program worth its salt should be based on objective, scientific public opinion research, *not* on someone's hunch or personal opinion. It should be hand-tailored to suit the needs of your industry; to take advantage of the communication assets that are already yours; to first coordinate individual company efforts and then fill in with whatever is required to do your part of the job successfully.

And finally, build on an abiding *faith* in the inherent goodness and fairness and soundness of the American people—including every segment of the public with which you have direct or indirect contact, particularly your employees and your plant city neighbors. If you can't believe that John Q. Public will always come up with the right answer once he is given the facts about any issue or problem, try to acquire that faith *before* you jump into any public relations program.

These are some of the foundation stones of every successful program of this kind and, when laid on the bedrock of integrity and service, which is the hall-mark of your industry, they insure steady progress toward your goal of *active* goodwill.

I understand that most of you here are directly or indirectly concerned with the sales end of your industry. May I therefore talk to you for a moment—as salesmen.

What I have said—and quoted—up to this point seems to add up to the conclusion that all of us are involved in the business of selling—whether it be products or ideas—are today faced with a challenge that transcends every other interest; a challenge that is peculiarly ours; a challenge that must be met, not merely to display our understanding, our courage and our strength, but to survive as free men.

As salesmen we live largely by the successful communication of ideas. We work daily with words and phrases and symbols and human motivations. As salesmen we have a fantastic record of achievement. Yet we must admit that we have failed miserably in one aspect of our responsibility.

Thinking about how I might best present my small contribution to your program, my mind kept circling back to John McCrae's famous rondeau that even today, thirty or more years after it was written, could probably be recited by every man in this room who remembers World War One. It starts out:

"In Flanders fields the poppies grow between the crosses, row on row, that mark our place."

And it ended with these stirring words:

"Take up our quarrel with the foe. To you from failing hands we throw the torch; be yours to hold it high. If ye break faith with us who die, we shall not sleep, though poppies grow in Flanders fields."

The foe? Then, as now, the foe was not a country, nor an army, nor a people. It was all the forces that would deprive men of their God-given freedom; all the blind, power-hungry egotists who would impose regimentation and dictatorship upon their fellow men; all the systems that can exist only upon the ignorance and fear and the poverty of little men.

The torch? Then, as now, the torch was the hope of mankind for peace and prosperity; the same torch that for centuries has lighted the rocky path over which men of courage and faith have fought their way from slavery to freedom; the torch that today burns less brightly than ever before as the poison of collectivist ideology creeps around the world and kills the will to do.

No, John McCrae was not writing for his day alone. He wrote a perfect rondeau, for he knew that the perfect is everlasting. And I have liked to believe that he knew too that he was capturing ageless wisdom within this perfect form. Certain it is that his words constitute a ringing challenge to those of us who, by aptitude and experience, are best qualified to take up the quarrel with the foes of freedom; to hold the torch of hope high; and to keep faith with those who died.

To date, we have failed—and failed miserably. Not that we haven't tried—fitfully at least. Our resolutions have been good. We intended—all of us—to keep the faith. But somehow, we lost sight of the enduring symbolism of the poem that we used to recite with so much feeling. Somehow, life—personal life—got in the way. Somehow, we grew soft and satisfied. Somehow, time threw out of focus our concept of that freedom which once was so sharply etched as we listened to Taps over the grave of a friend. And soon — too soon — we found ourselves sitting in our little niches by the side of the road, watching—without realizing what we were watching—this nation's grim retreat from all the ideals and traditions that have made it great.

Think back, if you will, to your own boyhood. What degree of freedom was handed to you by your father? What measure of opportunity to acquire security for yourself and those you love? What respect for the great men of our history? What teachings of self-reliance, intellectual integrity, thrift, fair-play, and the priceless privilege of work? What sound economics; what good philosophy; what humble faith in God was given to us?

Think back to the courage and resourcefulness of the founders of your industry—the paper-makers of early America; the builders of the companies you represent here today. What footprints did they leave in the sands of time? What great lessons did their lives teach us—*if* we remember?

Measure these inheritances of yours against the ultimate that you can pass on to your sons and daughters. Recall how the insidious idea of the all-powerful, all-wise state has penetrated into the consciousness of our people; to suffocate ambition and stifle every incentive to personal achievement. Mark the encroachments of an ever-fattening bureaucracy on the life of every man and woman in this country.

Indeed we have failed. We have failed because it has been, and is, within our power to succeed; to keep the faith. We have had, and we still have, the know-how, the training, the tools with which to sell a way of life to the American people.

Generally speaking, the problem of financing productive enterprise in America has been licked—by the thrift, the courage and the ambition of our people.

The problem of mass production has likewise been licked—by the ingenuity and the vision of our people.

The problem of distribution has been licked too—by the inventiveness and the competitive spirit of our people.

The problem of selling has also been licked—by the imagination, the persistence and the skill of experts like you.

BUT—generally speaking, the problem of interpreting these epic achievements in terms of benefits to all the people has been muffed—badly muffed.

The simple fact that our American-style processes of finance, production, distribution and selling actually produce more good for more people than any other set of processes ever devised by man in all the long history of civilization, has never been planted deeply in the minds of our people—at least not to the extent that it becomes

(Continued on page 110)

KENWOOD MILLS • 80th ANNIVERSARY • 1870-1950

80 Years of Paper Progress

Eighty years ago, the American paper industry was just beginning its great period of expansion. Since then paper, at lowering costs and in increasing volume, has changed the course and character of civilization, spreading culture and education, stimulating business, elevating the standard of living. The progress of the paper industry has paced the progress of America.

Also, just 80 years ago, F. C. Huyck & Sons began the manufacture of fine quality papermakers' felts. Recognizing that every paper problem is a felt problem, this organization has pioneered in research and in service, working always in the closest cooperation with the paper industry.

In observing its 80th Anniversary, F. C. Huyck & Sons looks forward to a continuation of the policy it has so long pursued, seeking new and better ways to help the paper industry produce more and better paper—the product most used by man.

The dramatic story of paper is told in the sound-and-color film, "Paper — Pacemaker of Progress," and in a book under the same title. Both are presented by F. C. Huyck & Sons as a tribute to the Paper Industry. The book will be sent free upon request.

F. C. HUYCK & SONS • *Kenwood Mills* • RENSSELAER, N. Y.

HUYCK *Felts*

an ever-present, active part of the public consciousness.

Thus we have learned to sell the product of the process, but we have failed miserably to sell the process that makes the product possible. That is why people take for granted the products and benefits of these processes while they blindly subscribe to bootstrap economics and accept as real the shining goldbricks of the Collectivist pitchmen.

Inventing, building, producing, distributing and selling are not enough these days. Unless the American people understand and appreciate these processes—and the economic system of which they are a component part—the very processes that produce the greatest good for the greatest number could be destroyed by starvation or strangulation or allowed to die from sheer neglect.

That is why I have employed this delightful occasion to plead with you for a program of action; a selling program; a program that says to the world that here is an industry that is alert, courageous, united, virile—an industry that is 100 percent American and proving it by word and deed.

* * * * *

There's nothing fundamentally wrong with America. There's nothing fundamentally wrong with the American people. Once made aware of what is happening here—once made aware of the truth by you who know so well how to transmit ideas to masses of people—Americans in every walk of life will be aroused and the peddlers of lies about American industry will be given the treatment they deserve.

As experts in the business of selling; as masters in the art of communication; as moulders of opinion; as thoughtful, loyal Americans, let's call a halt to defeatism. Let's put a stop to this grim retreat from greatness. Let's determine to give our sons and daughters at least the same chance we had—the same share of freedom. Let's use our God-given talents to restore the faith of all America in its destiny. Let's hold the torch high—that those who have given their "last full measure of devotion" may sleep in peace beneath their crosses, row on row. Let's keep the faith.

Ladies and gentlemen, once more I ask, where *do* you go from here?

SAPI Elects Keck

(Continued from page 51)

Mr. Knott also presented a motion, which was carried, that proposed a revision of Article 5 of the by-laws which next year will make it possible to name additional vice-presidents, thereby changing the present set up. Reason for the revision is to give recognition to the revived New England Chapter of the association, also the possibility of other new chapters being formed in the Miami Valley, and in California. Under the revision, four vice-presidents can be named instead of the present two.

It was announced that the executive committee is naming a group to look into a suggestion made by Secretary Amos that steps be taken to employ a full-time secretary instead of having the services of a part-time secretary as is now the case. Attention to this development was also called by President Helffrich in his annual report.

E. W. Tinker, executive secretary of the American Paper & Pulp Assn., delivered the following remarks at the luncheon of the Salesmen's Assn. held at the Waldorf on February 21.

Tinker's Address

On behalf of the American Paper and Pulp Assn. I am glad to again greet the salesmen of the industry on this occasion of their annual luncheon in the year 1950. To me these luncheons are one of the highlights of the year because the intelligent distribution of the industry's products is vital to the very life of the manufacturing enterprise.

It would serve no useful purpose for me to review the outlook for the year 1950 or even for a longer period. No doubt this subject will be discussed by many during the week but, in the final analysis, you will have to draw your own conclusions. However, I would like to remind you of the atmosphere that existed a year ago during your annual luncheon. At that time, and in the following three or four months, particularly among the salesmen, there were dire predictions as to the future and, with some justification, a cloud of gloom that was almost impenetrable hung over the industry.

The pulp and paper industry has, over the past decade, doubled in size. It is now one of the nation's huge industries. Because of its very size it can no longer isolate itself from public issues of national concern. It must determine its views and make them known. Just one instance, as an illustration. The industry has been gravely concerned with moves to change the tariff structure under which the industry has grown. The potential effect upon employment, payrolls and taxes, let alone dividends, was and is a major issue. This does not mean that the pulp and paper industry is opposed to increased international trade. However, the industry's position and its presentations in this matter were based upon the assumption that the Congress of the United States and those in administrative authority would wish to take action only in the light of full information. It is inconceivable to me that it is sound public policy to bring about a multiplicity of instances comparable to the Town of Waltham, which could easily occur if the situation with respect to the paper industry is not judiciously handled.

I have cited just this one instance because the understanding and the cooperation of the salesmen of the pulp and paper industry is needed in obtaining better customer and public understanding of many problems affecting the welfare of the industry. I hope you will accept it as a duty and a responsibility in your key positions to make known the facts and it is our responsibility to see that the facts are available to you.

U. S. Pulp Producers Assn.

At the annual meeting of the U. S. Pulp Producers Assn. held at the Waldorf on February 20, James L. Ritchie was re-elected as executive director. Five regional directors were named as follows: New England — Downing P. Brown, Brown Co.; Middle Atlantic—H. S. Oliver, New York & Pennsylvania Co., Inc.; South—Stuart E. Kay, International Paper Co.; Lakes States — W. M. Wright, Kimberly-Clark Corp.; West Coast — L. K. Larson, Weyerhaeuser Timber Co.

Directors at large include: R. M. Buckley, Soundview Pulp Co.; Stuart B. Copeland, Northwest Paper Co.; Willard J. Dixon, St. Regis Paper Co.; Amor Hollingsworth, Penobscot Chemical Fibre Co.; James L. Knipe, Union Bag & Paper Corp.; W. S. Lucey, Rayonier Inc.; James L. Madden, Hollingsworth & Whitney Co.; Reuben B. Robertson, Jr., Champion Paper & Fibre Co.; Lawson Turcotte, Puget Sound Pulp & Timber Co.; and Joseph M. Wafer, West Virginia Pulp & Paper Co.

Soda Pulp Mfrs. Assn.

Peter S. Paine, president, New York & Pennsylvania Co., was re-elected president of the Soda Pulp Manufacturers Assn. at the group's annual meeting on February 21. The following were also re-elected: vice-president, Amor Hollingsworth, president, Penobscot Chemical Fibre Co.; treasurer, R. I. Worrell, Mead Sales Co.; and secretary, George A. Vogel, Mead Sales Co.

Writing Paper Mfrs. Assn.

(Continued from page 84)

director, U. S. Pulp Producers Assn., discussed the current wood pulp situation.

Bernard Lucas, S. D. Warren Co., Gardiner, Maine, was elected chairman of the *Thin Paper Group* at its meeting on February 23. W. F. Tatum, Smith Paper, Inc., is the retiring chairman of the Group. Speakers at the meeting were J. L. Muller, Chief, Forest Products Branch, Office of International Trade, Department of Commerce; Norman Meese, Pulp and Paper Division, United States Tariff Commission, and W. B. Bullock, manager of the Import Committee of the American Paper Industry. Mr. Muller discussed the various aspects of international trade with respect to thin papers. Messrs. Meese and Bullock discussed U. S. tariff problems.

DUPONT "QUILON"

NEW OUTSTANDING WATER-REPELLENT AND SIZE FOR PAPER

New Du Pont "QUILON" stearato chromic chloride opens new sales horizons for makers of paper products

Quickly and easily, using conventional mill equipment, paper makers can produce a wide variety of paper products with superior water-repellency and size characteristics.

Many Unusual Features

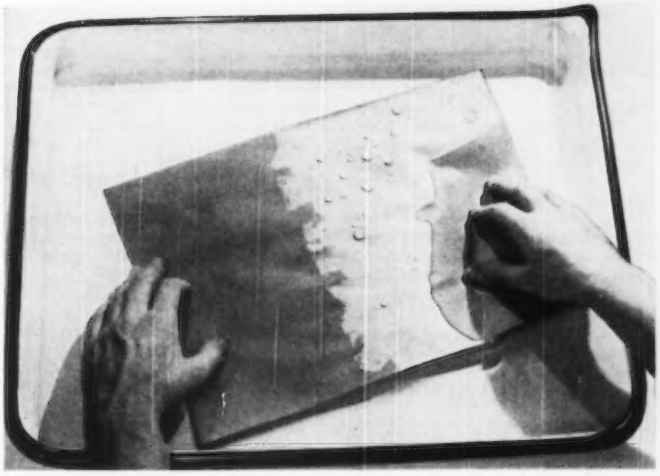
In actual production, paper treated with a dilute water solution of new Du Pont "Quilon," a chromium complex, resists absorption of water and repels water impinging on its surface. This treatment may be used alone or may supplement rosin-alum treatment where higher sizing is sought at low cost. In contact with water, paper treated with "Quilon" retains strength for longer periods of time, and thus possesses wider utility. Treatment with "Quilon" does not adversely affect the appearance, texture, strength or other physical properties of paper, does not produce a slippery or waxy "feel."

Six Profitable Uses

With new Du Pont "Quilon," paper makers can (1) Develop water repellency on all classes of paper alone or with many other coating or sizing materials; (2) Minimize undesirable water sensitivity of soluble coatings, including starch and starch-containing types; (3) Control penetration of water-soluble coatings during application; (4) Minimize adhesion of paper on freezing; (5) Improve the bonding of wax coatings; (6) Up-grade sizing on papers where increased rosin-alum is not applicable or effective.

Broad Possibilities

Treatment with "Quilon" enables paper makers to produce a whole new range of products and to improve many standard products for extra salability. Such treatment makes it easy to produce better ice bags and wet-strength bags, grocery bags, shipping sacks, butchers' wrap, paper tablecloths, twisted paper products, decorative crepe, glassine, wallpaper, signboard paper, drinking cups and dish stock, building papers, paperboard, jute liners, waxed paper, stripping papers, anti-sticking deep-freeze wrappers, and many other items.



Right half of paper—treated with new Du Pont "Quilon"—resists water absorption, repels water impinging on its surface, retains strength over longer periods. These characteristics are absent from the left-hand side of the paper, which has not been treated with "Quilon."

You May Obtain Data and Sample

Investigate this unusual new product. Learn how it may help you build sales, cut costs! Write for data on this remarkable product covering use applications, methods of treatment, properties of treated papers. Du Pont Technical Service will gladly advise you on specific applications of "Quilon."

New Technical Bulletin Now Available Write for it!

E. I. Du Pont de Nemours & Co. (Inc.)
Grasselli Chemicals Dept.
Wilmington 98, Delaware

Du Pont "QUILON"

DU PONT

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

Tappi Reports On 1949

Abstract of Secretary's Report

R. G. MACDONALD

Sec.-Treas., Technical Assn. of the Pulp and Paper Industry

During 1949 the Technical Association of the Pulp and Paper Industry experienced considerable growth in membership and it was a very productive year with respect to meetings held, divisional and local section activities. Of outstanding interest was the Association's new monthly magazine which completed its first year.

Membership

There were 565 individual members elected in 1949, 213 members resigned or were dropped. On December 31, 1949, the total individual membership was 4,015.

There were 22 corporate and 23 sustaining members elected. Three corporate and 3 sustaining members resigned. The corporate membership on December 31, 1949 was 209, and the sustaining membership was 193.

Necrology

The Association lost through death the following members: Robert Bell-Irving, Powell River Co., Ltd.; Sven B. Bugge, Tomahawk Kraft Paper Co.; Richard Feibelmann, The Aktivin Corp.; Royal V. Heath, Jr., The Heath Co.; Edward J. Johnstone, Lockport Felt Co.; C. H. L. Jones, Price Bros. Co. Ltd.; Richard D. Kehoe, Paper and Industrial Appliances; Ernest J. Kirkup, Donside Paper Co. Ltd.; Herman L. Kutter, Black-Clawson Co.; A. L. MacNaughton, Ellengowan Paper Co. Ltd.; William G. MacNaughton, Newsprint Service Bureau; Henry P. Madsen, Appleton Machine Co.; Lewis B. Miller, University of Cincinnati; John C. Monty, Canadian International Paper Co.; J. Brooke Shaughnessy, American Wringer Co.; Erik Solitander, The Finnish Board Mills Assn.; Sanford E. Thompson, Thompson & Lichtner Co.; Howard L. Vincent, George Vincent, Inc.; Charles G. Weber, National Bureau of Standards; Edward A. Weber, Oregon Pulp & Paper Co.; Pete Wright, The Bagley & Sewall Co.

Spring and Fall Meeting

Prior to World War II it was customary for the Association to hold two national meetings each year, the annual meeting during Paper Week in February and a general fall meeting. The last general fall meeting was held in Chicago in 1943 and was devoted to the packaging needs of the Army, Navy and Air Forces. Because of hotel and transportation problems it was not possible to hold the customary large fall meetings in the years following 1943.

As a result of this a new form of meeting was developed, namely one devoted intensively to a limited scope. Instead of a single general fall meeting there have been a number of functional meetings held since the war ended.

Although these functional meetings have generally been held in the fall, one such meeting was held in the spring of 1949.

The Coating Conference

The first of the functional meetings was held at the Pantlind Hotel, Grand Rapids, Mich., on April 26-27, 1949. The meeting was sponsored by the TAPPI Coating Committee, Werner Kaufmann, Kupfer Bros. Paper Co., Chairman, and the Kalamazoo Valley Section, P. W. Bartholomew, Hawthorne Paper Co., Chairman. W. A. Kirkpatrick of the Allied Paper Mills, Kalamazoo, Mich., was General Chairman of the Conference. Prior to 1949 all Coating Committee sessions were held in New York. It is possible that in the future these conferences will alternate annually between the February meeting in New York one year and a meeting held the following year in a paper coating center.

General Fall Meeting at Portland, Ore.

Previous general fall meetings were held at Pacific Coast locations in 1934 and 1940. In 1949 the Pacific Section sponsored a general fall meeting which was held at the Multnomah Hotel in Portland, Ore., on September 11-15, 1949. This was one of the best organized conventions ever held by the Association. More than 700 attended, including about 250 from eastern points. A special train of the Union Pacific Railway carried about 125 from New York and Chicago to Portland. Featured at this meeting was a visit to the woodlands of the Weyerhaeuser Timber Co., and visits to a number of the pulp and paper mills located near Portland, Ore. R. J. LeRoux of the Weyerhaeuser Timber Co., and A. G. Natwick of the Crown Zellerbach Corp., were co-chairmen of the meeting. W. F. Holzer of the Crown Zellerbach Corp. was Program Chairman.

Fourth Engineering Conference

Following the unusually successful engineering conferences held at Milwaukee, Philadelphia and Buffalo, the Fourth Engineering Conference of the Pulp and Paper Industry, sponsored by the Engineering Division was held at the Statler Hotel, Boston, Mass. George H. Pringle, Chief Engineer of the Mead Corp., Chillicothe, Ohio, was General Chairman. About 500 engineers attended. Milton Jacobs of Chas. T. Main, Inc., was Chairman of the Local Arrangements Committee. In addition to an exceptionally fine technical program sponsored by the chairmen of the committees of the Engineering Division the meeting was featured by a banquet tendered by a large number of the machinery plants of New England and by mill visits to the plants of Bird Machine Co., Draper Bros. Co., Foxboro Co., General Electric Co., Norton Co., Lodding Engineering Co., Riley Stoker Co., Rice Barton Corp., and to Bird & Son, Inc.

Fibrous Agricultural Residues

Terre Haute, Ind., was the location of the 1949 Conference sponsored by the Fibrous Agricultural Residues Committee. This unusual and very effective committee operates very much like a complete association within the organization. Its meetings, which are devoted to the advancement of the straw pulp and paper industry are attended by individuals representing all manufacturing phases of their respective companies. At the meeting held at the Terre Haute House, Terre

Haute, Ind., on November 7-8, 1949, S. I. Aronovsky of the Northern Regional Research Laboratory, Peoria, Ill., was Program Chairman. R. F. Burns of the Terre Haute Paper Co., was in charge of local arrangements. The Terre Haute Paper Co. was host to the Conference and tendered a dinner to the 125 that attended. A visit to the mill of the Terre Haute Paper Co., and to other local industrial plants featured the meeting.

Publications

A major change in publication practice was initiated in 1949. Beginning in January the Association published a monthly technical magazine. Prior to 1949 and since 1921 many of the Association's meeting papers were published in the Paper Trade Journal and an annual volume of these and other papers appeared in a large cloth-bound volume called Technical Association Papers.

Tappi

Following this long and harmonious relation with the Lockwood Trade Journal Company the Executive Committee voted to launch an independent magazine.

Bibliography of Paper Making

Continuing its practice of recording the technical literature relating to pulp and paper manufacture since 1900 the Association issued another Bibliography of Paper Making covering 1948. This was prepared by Clarence J. West, Chairman of the Bibliography Committee.

TAPPI Standards

The diligent work of the committees of the Testing Division resulted in the preparation and publication of two new official standards. Six tentative standards were approved and published and several tentative standards were recommended for advancement to official standard status. The manual of Standards now contain 184 standards, of which 167 are testing methods. When it is realized that several years are required for the development of many of these standards the total number adopted represents a great amount of effort on the part of a large number of individuals.

TAPPI Data Sheets

A number of new TAPPI Data Sheets were mailed to our members early in 1949. The Engineering Division, appreciating the value of these publications to those engaged in engineering activities has established a Data Sheet Committee for the purpose of preparing many more interesting and valuable sheets and to improve their general quality.

Monographs

No new monographs were issued but three monographs relating to the paper coating process have been completed and are being edited preparatory to publication.

Routine Control Methods

After a long period of editing and rewriting, a large number of so-called Routine Control Methods are now in process of being printed by the photo-offset method and should be ready for early distribution. These methods are being printed on paper prepared for a 3-ring or 7-ring binder. Every effort has been made to have them be quite different in appearance to the TAPPI Standards. They should not be considered to be in the same category as the Standards but they are methods that have been found to be useful for routine evaluation of paper and pulp mill products and should be of considerable value for estimating certain properties of immediate importance.

TAPPI Medal Award

The 1949 TAPPI Medal was awarded to Hardy S. Ferguson of New York City, well known in the industry because of the large number of pulp and paper mills designed and built by him over a long span of years.

TAPPI Fibrary

During the past year a questionnaire was sent to the Association membership requesting samples of papermaking fibers. The response to this request was excellent with several hundred samples being offered. The returned questionnaires are being studied by the Institute of Paper Chemistry staff to determine which samples will be accepted for the Fibrary which will be located at the Institute. The purpose of the Fibrary is to be the source which may be called upon by individuals or companies to supply them with fiber samples of known origin and history. These can be studied microscopically as a basis for determining the nature of undetermined fibers. This service was requested by the TAPPI Testing Conference held at the Mellen Institute in Pittsburgh, Pa., on October 11-14, 1948. The need for such a service was considered to be urgent.

Student Members

By vote of our membership the junior grade of member was discontinued and a new grade of Student Member established. Since the junior grade was intended to apply primarily to members in colleges and those felt to be financially unprepared for the associate and active grades there was practically no negative votes. By inflation and general economic improvement of technical men in the industry coupled with the fact that membership dues have not advanced since 1921 the conditions leading to this Constitution amendment were obvious.

Munitions Board

The Association in many ways was able to contribute to the recent war effort. In line with the effort of the Federal Government to utilize the lessons learned during the war relative to procurement and stock-piling activities the Technical Association is being represented in the membership of the Packaging Advisory Subcommittee of the Munitions Board by the Association Secretary. Through this medium it will be possible to call for the assistance of qualified individuals in the Association and the industry if the need arises.

Employment

This report has made annual mention of the employment status of its members. It has always been a major interest of the Association to promote the creation of employment for technically trained individuals and to assist such persons in obtaining employment or in improving their employment status. Over the years the Association has been a successful intermediary in enabling companies to find competent employees and in planning individuals in positions. Employment of technical trained people in the industry has been quite stable and the Employment Service Department now appearing in *Tappi* has produced a large number of mutually beneficial results.

Local Sections

No new local sections were established in 1949 but during the past fall a group known for the present as the Lake Erie Papermaker's and Converter's Association was established in Cleveland, Ohio, and is serving a large area from Erie, Pa., to Monroe, Mich., and south to central Ohio. If it is evident that this group is likely to be supported in the future it is probable that it will eventually apply for a local section charter.

The Pacific Section sponsored the national fall meeting of the Association and the Kalamazoo Valley Section co-sponsored the TAPPI Coating Conference held at Grand Rapids, Mich., in the spring. All sections had a successful meeting year.

Canadian Carloadings

OTTAWA — Cars of revenue freight loaded on Canadian railways declined to 4,438 of woodpulp and paper in the week ended January 21 as compared with 4,531 in the preceding week or 4,499 in the same week of last year, according to the latest survey by the Canadian Government.

During this week, such car loadings in the Eastern Division dropped to 3,873 as against 3,957 in the previous week or 3,926 in the same week last year, with the Western Division accounting for 565 as against 574 or 573 in this week a year ago.

Such car loadings decreased to a cumulative total of 12,580 from the beginning of 1950 to the week ending January 21 as compared with 13,236 a year ago in the corresponding period, with the Eastern Division accounting for 10,949 as against 11,506 last year and the Western Division for 1,631 compared with 1,730 cars a year ago.

The Marshall Plan and the European Pulp and Paper Industry

JOSEPH E. ATCHISON
Chief, Pulp and Paper Section, Industry Division,
Economic Cooperation Administration

First of all, I want to express my great pleasure at being invited here today, and second, I want to thank the members of TAPPI for the excellent assistance and support which you have given the Economic Cooperation Administration, and the pulp and paper industry of Western Europe.

I consider it a particularly great honor to appear on the same program with Mr. George Mead. You know of his great contributions to the pulp and paper industry, but I might add that he has also been one of the greatest supporters of the Marshall Plan and has been serving as a member of Mr. Hoffman's Public Advisory Board since the Marshall Plan began. In a recent speech before the Dayton Council on World Affairs, Mr. Hoffman said in speaking of Mr. Mead "If America has any better citizen, I for one do not know who it is." I know that all of us here will agree with this sentiment.

Gentlemen, the general purposes of the Marshall Plan are well known to all of you. Its immediate objective was the rehabilitation of Europe—that is, restoring production facilities, stabilizing currencies, halting inflation, facilitating and stimulating trade. By doing these things, to bring order out of chaos, we were certain that the communist menace would be stopped in its tracks.

When we compare the picture today with that of two years ago, there is no doubt that tremendous progress has been made. This first phase of European recovery has been largely accomplished. Furthermore, we have obtained a much clearer understanding of the deeper and more difficult problems which the European nations must solve if recovery is to be lasting and their standard of living is to be increased.

The second part of the job is by far the hardest. Before Europe can become independent of U. S. aid, she must reach a point where her dollar earnings will be in line with her dollar expenditures. To accomplish this, cost of production must be lowered, productivity per man must be improved, new merchandising methods and organizations must be developed, competition must be restored, and new trade patterns must be found.

Presented before the Open Meeting of the American Paper and Pulp Assn., New York City, February 23, 1950.

We are attacking these problems on all fronts. All of our energy is being concentrated on them.

I will tell you more specifically about the problems in the pulp and paper industry of Western Europe and what we are doing about them.

During the first two years of the Marshall Plan the greatest contribution which we made to the pulp and paper industry was in furnishing much needed raw materials from the Western Hemisphere. Since April 1, 1948, we have allocated $94,500,000 for the purchase of pulp and paper in the United States and Canada. Although this is a comparatively small percentage of the total amount of money which has been allocated, it is, nevertheless, a substantial sum in anybody's language. Perhaps you would be interested in knowing just what was purchased with this money and where these materials went.

This $94,500,000 was spent for the following items:

$40,200,000 or 42.7% was spent for woodpulp for paper

$23,800,000 or 25.8% was spent for dissolving pulp

$19,400,000 or 20.5% was spent for newsprint and

$11,000,000 or 11.6% was spent for other paper and paperboard consisting mainly of specialty papers not available in Europe.

It can be seen from this break-down that about 69% of the total was for pulp and the remainder was for grades of paper which were in short supply or not available at all in Europe at the time.

It is quite interesting to note the trend of the requests for allocations of dollars for pulp and paper. It is a definite indication of progress being made toward recovery of Europe's industrial plant.

During the first year of operations, total pulp and paper allocations amounted to more than $68,000,000. During the second year, these allocations will total only about $30,000,000 or less than half that of the first year. During the third year, we have estimated that total allocations for pulp and paper will be no greater than $20,000,000.

This is progress, gentlemen. It shows a significant trend toward recovery of the European pulp and paper industry and less dependence upon the United States. Of course, as European production facilities improve, and as the Europeans are able to increase their own dollar earnings by increased sales of their goods in the U. S., these ECA dollar authorizations for purchase of pulp and paper will gradually decrease and will end entirely in June of 1952. This is a natural development. It must be remembered that before the war, Europe was not only self-sufficient in pulp and paper, but did a tremendous export business in both pulp and finished paper with all the rest of the world.

As the Marshall Plan nears the halfway mark emphasis is switching from allocations for purchase of raw materials to allocations for purchase of capital goods. This ties in with our all-out efforts to increase productivity, improve efficiency, and reduce costs in the industrial plant of Europe. Thus we expect that there will be increased requests for pulp and paper mill machinery as the European mills get their long delayed modernization and rationalization programs under way. However, none of these requests will be granted unless it can be shown that they tie in with the over-all program. We do not intend to finance equipment for any plant which must depend upon protective tariffs and trade restrictions for its survival. We want modern plants which can fit into an integrated economy of all of Western

Europe with rapid elimination of trade barriers.

In speaking of the part that the pulp and paper industry is playing in the Marshall Plan, I want to make it very clear that we in ECA do not lay down a set program for the pulp and paper industry of Europe. Just as in all other industries, the Europeans make up their own program and run their own show. In the over-all program the United States is only putting up 3 percent of the funds going into capital improvement and expansion in Europe, as compared with Europe's 97%. Just as bankers, we advise, suggest, help in any way possible, and in certain instances withhold money for materials that appear to be unneeded for the recovery program. But as good bankers, we do not try to run the business.

In order tor us to know what needed to be done in the pulp and paper industry in Europe, we felt that we had to have some on-the-spot information. Consequently, I was sent over to Europe last year to make a study of the situation in several of the countries. These studies are being continued by experts from our Paris office so that we keep in constant touch with what is going on in the industry.

I would like to tell you about some of the things I learned in Europe because I feel that what I saw over there is intensely interesting to many of you. I covered seven countries over a period of five months, and made a great number of visits in each country. Because I was with the Marshall Plan and had the backing of every government, every door was open to me and the managers and technicians talked to me without reservation or reserve. After this trip, I was more convinced than ever that to get a true picture of conditions in any country an on-the-spot inspection is necessary.

It is surprising how few people, outside the industry, realize the importance of the pulp and paper industry in Western Europe. It is the leading industry in several of the Marshall Plan countries and occupies a key position in all of them. Although the industry has no tremendous and spectacular plants such as the steel, petroleum, and automobile industries, it consists of hundreds of small mills which nevertheless have a far reaching effect upon the economies of the various countries. In some of the countries it is the leading export industry and its products play an extremely important role in intra-European trade. In addition, woodpulp is one of the biggest dollar earners among Europe's exports.

In all of Western Europe, the industry is capable of turning out about 6 million tons of pulp and over 8 million tons of paper and paperboard, with a total value of over $2 billion annually. It employs over 400,000 workers. It has been estimated that if the entire physical plant were to be replaced at current prices, it would cost over $3 billion.

In an industry of this size, you can well understand the need for a sizable investment program. If we were to take 25 years as the average lifetime of pulp and paper mill equipment under competitive conditions, it would require approximately $80,000,000 worth of machinery and equipment per year to merely keep the European plant up-to-date. This would be assuming that the present plant is modern and can produce competitively. This is not the case by any means.

The truth is that very little new equipment has been installed in most of Western Europe in the last ten years. In addition, much destruction occurred during the war. Add to this fact that a great proportion of mills were obsolete in comparison to our standards even before the war, and the need for investment capital reaches staggering proportions far beyond the $80,000,000 annually needed for mere normal replacements. An annual investment of $150,000,000 would be much more realistic in view of the need.

What is actually happening in the investment field? The investment program for the entire year of 1948 for all of Western Europe's pulp and paper industry amounted to only $37,-000,000. Of this amount, about $2,000,-000 worth of equipment was purchased with dollars — all in the United States. During fiscal year 1949/50 the total investment program is expected to be about $75,000,000 of which $12,-000,000 will be spent in the United States. It is easily seen that this program is pitifully low in comparison to the need.

At least the trend is up, and there are ever greater signs that European industry is waking up to the hard facts of life regarding the necessity for constant investment back into their factories. We do not know yet what the total investment program will be for 1950/51, but we have indications that it will be greater than the present rate and actually may show a realistic relationship to the need.

During my travels in Europe, I was particularly interested in the developments in the use of straw for pulp and paper. Although numerous reports had appeared in American publications, none of these really had described the European developments in this field to an adequate degree. I found that the technology for production of both unbleached and bleached pulp from straw had reached a high state of development in more than one of the European countries.

In Italy, the use of straw for the manufacture of bleached pulp and paper had reached a higher state of development before the war than in any other country of the world. This development received great impetus under Mussolini's program of self-sufficiency during which time several modern bleached straw pulp mills were constructed with government assistance. I saw high quality bleached straw pulp being made in Italy by three different processes on a commercial scale. This pulp was being used in many grades of paper—including newsprint which we have heard so much about recently.

But Italy is not the only country in which straw is being used. I saw bleached straw pulp being used in fine grades of paper in Germany. I saw large scale production of straw board of many grades in the Netherlands. In England, I saw a pilot plant producing continuously two tons of bleached straw pulp per day for use in an adjoining fine paper mill, and I saw commercial production of both straw board and bleached straw pulp.

In addition, I saw on the drawing boards many new plans for construction of bleached straw pulp mills all over Western Europe. In view of the great shortage of pulpwood there, this is a significant and important development. We are encouraging it in every way possible.

While I was in Italy, I had a rare opportunity to witness a specific example of how the Marshall Plan affects not only the industrial plant of a nation, but how it affects the very political climate itself. While in Rome, I was invited by the Chief of the Industry Division of our ECA Mission to Italy, to accompany him to a ceremony in conection with the opening of a railroad line in the Appennines mountains.

This was no ordinary railroad opening. It was in the heart of an area which had a strong communist party following—the line connecting Bologna with Florence across the Appennines through Pistoia. This railroad, although very short was extremely important to the people in this area, being practically their only means of transportation out of these rugged mountains. This particular section of the line had been closed to traffic since the retreating German armies had destroyed 24 tunnels, 6 large bridges across 200 foot canyons, and about 20 miles of track. Its reconstruction involved 650,000 man days of work and an expenditure of more than $2,000,-000. About ⅔ of this amount had come from Marshall Plan counterpart funds.

Our party boarded the private train of the Italian Minister of Transportation early on Sunday morning at the beginning of the line. We found that practically all of the high government officials were on the train, so we soon realized that this must be an event of great importance. As we approached the first town along the line we could hear loud cheering in the distance. We soon saw that the entire populace of the small town had turned out to show their appreciation for this great event in their lives. As the train stopped, large bouquets of flowers in great quantities were brought aboard, the Mayor of the town greeted us, the priest of the town repeated a blessing, and the crowd cheered as only Italians can. We accompanied the Minister off the train and down the line of happy people. There we saw large posters everywhere pointing out that this

project had been made possible with the help of Marshall Plan Funds.

As we went from town to town, on our journey to Pistoia, the same reception was repeated. It was truly one of the most heartwarming experiences I have ever been through. Make no mistake about it, those people knew who their friends were. The communists had been spreading their usual lies in trying to convince the people that the Marshall Plan was only for the big businessman and that it would never help them, and that the government was not interested in their problems. But this railroad was tangible evidence that they had not been forsaken even though they were only a small segment of the population. It had a tremendous effect upon their political thinking.

Upon arrival at Pistoia, the Minister of Transportation gave a rousing speech before the thousands of people gathered in the city square. I shall never forget the tremendous ovation which he received at the completion of his speech. We were all very proud that we were participating in the plan which made this vital project possible.

Another field in which I was particularly interested during my trip, was the developments in the use of hardwoods such as poplar and beech. There too, I found some very interesting things. Just as in developments in straw pulping, Italy has been the leader in Europe in the use of hardwoods.

Almost all of the mechanical pulp produced in Italy is made from poplar, and practically all of their newsprint is made with this poplar groundwood. For the past twenty years, Italy has been cultivating poplar as a crop. This also received impetus under Mussolini's self-sufficiency program. Many of the peasants have found that they can make more money by growing poplar than by growing annual crops—and with much less work. I also saw excellent quality dissolving pulp being produced from beech in Italy.

In other countries, the use of hardwoods has not reached nearly so high a state of development as in the United States. However, I had constant inquiries regarding the extensive use of hardwoods in the United States, and I am certain that there will be many developments in this field in Europe in the future. Now that other countries are aware of the great success which Italy has had in large scale cultivation of poplar, they are all investigating this possibility. This promises to be a very significant development and may well become of tremendous importance to the European pulp and paper industry. We are encouraging this development in every way possible.

Many of you may be wondering what has happened to the pulp and paper industry of Germany which at one time was the world leader in this industry. Of course, a great part of their former industry is now behind the iron curtain so I can't report on that. However, I did visit many of the mills in Western Germany and talked to many of the leaders in the industry. The thing that impressed me most was the depressing effect which a ruthless dictatorship can have upon every segment of the life of a country. I was told that from 1933 on, no German pulp or paper mill was allowed to install a single piece of new equipment or do any modernization work unless it contributed directly to building up the war potential. As a result, today the German mills are almost hopelessly obsolete, their production methods are antiquated, and the quality of many of their pulp and paper products is far below the quality of products from Scandinavia and the Western Hemisphere.

Going from a position of world leadership in the pulp and paper industry down to their present position is a real tragedy.

It is not possible to make many generalizations about the pulp and paper industry of Europe as a whole. However, there are a great number of problems confronting the industry. As I see it almost all of these problems can be solved by two basic things. Those are *investment* and *cooperation*. I think that one of the most important things which has happened during the past two years is that the Europeans themselves have begun to realize that these problems do exist. They also realize that they will have to attack these problems by investment and cooperation if they are to survive.

I have mentioned the investment program, how inadequate it has been in the past and the improved prospects for the future. I'll mention some of the specific projects which ECA has helped to finance and some which are in the cards for the future.

One of the most important of the projects financed to date involved an expenditure of $950,000 for purchase of stock preparation equipment and a new modern Fourdrinier machine for production of glassine and other grades of paper from bleached straw pulp in Italy. One of the most important features of this project is that it will provide for the introduction of the first really modern paper machine into southern Italy. By watching it in operation, other mill executives might see the tremendous value of modernizing their own machines to take advantage of improvements which have taken place over the past thirty years. A few modern machines such as this scattered over Italy could well result in a revolution in paper mill production techniques.

Another project involved expenditure of $1,650,000 for the first modern high speed newsprint machine in Italy. It is to have a top speed of 1300 feet per minute as compared to present top speeds of 600 feet per minute. The company, Cartiere Burgo, expects to use poplar entirely as a source of fibrous raw material for this machine. They will combine poplar groundwood pulp with poplar semichemical pulp. Thus no new requirements for softwood will be involved and the production of much needed newsprint will be increased by 30,000 tons per year.

Two interesting projects in prospect for the future involve construction of two completely integrated Kraft pulp and paper mills. One of these is projected in Portugal and one in Austria and each is expected to have a capacity of 100 tons per day. Although much of the expenditure for these mills will be in Europe where their own European currencies can be used, there will be a considerable amount of equipment which they will both have to purchase in the United States. Portugal and Austria are two of the very few countries in Western Europe which have sufficient supplies of softwood pulpwood to allow any additional expansion of their pulp production facilities. Since pulpwood is in such short supply any sound development along this line is being encouraged.

Now you might ask what effect all of these new European developments will have on the U. S. pulp and paper industry. It's difficult to say, but I certainly don't anticipate any startling effect. In view of the great need for increased consumption of paper in Europe, I do not foresee any appreciable increase in volume of exports of pulp and paper from Europe to the U. S.

At the present time annual consumption of paper in Europe varies greatly from country to country, being as low as 5 pounds per capita in Greece and as high as 130 pounds per capita in Sweden, the average for Europe being 56 pounds per capita. This is in contrast to 360 pounds per capita consumed in the United States. Furthermore, total consumption of paper and paperboard in the U. S. increased by 94% between 1938 and 1948 whereas the consumption in Europe is still below prewar levels. The Europeans hope to raise consumption from 56 pounds per capita per year at present to 66 pounds by 1952. Even this small increase of 10 pounds each for 270,000,000 people would require an increase of 1,350,000 tons.

In view of this anticipated increase in consumption in Europe it is difficult to see how the increases in exports to the U. S. could be more than a mere trickle.

In fact, if the present low rate of paper consumption in Europe is to be increased by even ten pounds per capita, additional sources of fibrous raw materials must be found and exploited, and investment capital far beyond that available in Europe must be found.

This problem of investment is a very serious one in Europe. There is so very little capital available for new investment yet there is such a great need for it.

All over Europe I saw tremendous opportunities for investment in the pulp and paper industry. In fact, as I traveled through Europe I could not help but think of what wonderful opportunities there were for investment of private American capital and Amer-

ican know-how. This, certainly is one of the methods of closing the dollar gap and at the same time could be very profitable to many American companies with their new techniques, new products and progressive marketing methods. Many of the leaders in the European industry indicated great enthusiasm about the possibility of such investments and said that they would welcome the cooperation of American industry on an individual basis. This was particularly true in Germany where new investment capital is so badly needed, and where so many opportunities exist.

Of course, many obstacles only too readily come to mind regarding such investments, such as political instability, difficulties in converting profits and capital back to dollars, the threat of nationalization of industries, etc. Such conditions have suggested the need for government aid in bringing about the conditions necessary to encourage movement of American capital abroad. A start is being made in this direction.

ECA has a program of investment guaranties which provides for convertibility of currency. Moreover, there is before the Congress a bill to authorize the Export-Import Bank to make guaranties to Americans who make new private investment abroad against the risks peculiar to foreign investments. Private investments abroad *are* becoming much safer.

As important as the investment problem is, I think that on a long-range basis this matter of cooperation in the pulp and paper industry of Western Europe is even more important—and by that I don't mean cooperation in the form of cartels, production quotas and price setting.

Most important on the broad front is the complete economic integration of Western Europe with a single market of 270 million consumers. Then instead of each country having great numbers of small high cost mills limited to domestic markets by protective barriers on the part of its neighbors and protected from foreign competition by its own trade barriers, an atmosphere would be created for development of large scale, low-cost production mills which are so common in the United States. Greater specialization and standardization of grades would result and this would automatically bring down costs and increase productivity per man.

Just try to imagine what the status of the pulp and paper industry in the United States would be today if each of the 48 states had protective tariffs against imports from its neighbors.

Cooperation within the European pulp and paper industry, however, does not have to wait for complete economic integration of Europe. It can and is starting right now, and we are doing everything possible to promote it.

In America, the pulp and paper companies for years have exchanged technical knowledge. We hold these great national conventions in which we tell each other about new methods, new techniques and new products which have been developed. Everybody gains by this exchange. But in most countries of Europe, there are few such meetings. This secretiveness and absolute refusal to cooperate with each other in exchange of information on technical knowledge, production data, labor statistics, marketing methods, and other things has been one of the principal obstacles in the way of progress in Europe. Steps are being taken to change that attitude.

One of the most tangible activities in our efforts to bring about cooperation and thereby increased productivity is our technical assistance program. Under this program we bring teams of European Technical men, labor relations men, market promotion men and mill managers to this country to let them see for themselves our plants in operation and our cooperative spirit at work. Many engineers who have visited American mills have been delighted, but completely amazed, at the freeness of exchange of information and the great degree of cooperation among American mills. They have gone home determined to bring about changes in their own industry.

I am very happy that we are able to have with us here at this convention the first European pulp and paper team to visit the United States under this technical assistance program. I know that many of you have met and talked to members of this team and know what a fine group they are. The team is composed of 33 members representing 12 different European countries. Their special fields vary greatly and include pulp and paper machinery production, pulp manufacture, paper and board manufacture, converting and marketing, Trade Association activities and Labor-management Relationships. All of these men have been chosen carefully and they are outstanding men in their respective fields.

They have come prepared to do a job. During the next eight weeks they will visit a great number of pulp and paper mills, research and development laboratories, converting plants and machinery companies. They will see for themselves what management and labor alike gain from greater cooperation and greater productivity.

They will learn about new processes, new methods of operation, new machinery and equipment, new product developments, market promotion methods, trade and technical association structure and labor management relationships. Then when they return to Paris, they will prepare a report of their findings. This report will be distributed to all of the Marshall Plan Countries. Team members will follow through and see that their recommendations to the industry are carried out. We know that great improvements will be made.

As members of this European Technical Assistance Team have attended sessions of this great convention I know that they have been wondering why they cannot have such an organization in Europe. I think that one of the greatest contributions which the Marshall Plan might make in our field would be to promote the establishment of a Technical Association of the pulp and paper industry of all of Western Europe. One has only to think of the outstanding contributions which TAPPI has made to the pulp and paper industry of the United States to visualize the possibilities of a similar organization covering the entire industry of Western Europe with its 270,000,000 people.

It is only by such all out cooperative efforts that the pulp and paper industry, one of the largest and most vital of European industries can move forward and play its proper role in the over-all European Recovery Program.

Causes of Industrial Peace

"Nashua Gummed & Coated Paper Co. and seven A.F.L. Unions" is a study by the National Planning Assn.

A common sense approach, straight forward information and an understanding of the function of each in the security and growth of the company is the basis for this working arrangement.

That no economic war was declared during the initial organization is another reason for mutual respect each has for the other.

This case study of an exceptional record made by progressive management and unionism should be required reading by management from foreman up and union management on all levels.

Rag-Paper Commodity Meeting

CHICAGO—The combined Rag-Paper commodity meeting held recently in conjunction with the Mid-Western Div. meeting of the National Assn. of Waste Material Dealers, Inc., in the Stevens Hotel attracted close to 100 persons.

Harold Shilling, western vice-chairman of the Waste Paper Institute of N.A.W.M.D., and of the U. S. Paper Supply Co., Chicago, presided.

Talks were given by the following: Harry C. Sackett, vice-president Alton Box Board Co., Alton, Ill., "Waste Paper;" Carl J. Nolte, Globe Roofing Products Co., Whiting, Ind., "Roofing Rags," and Jack V. Spachner, executive vice-president Container Corp. of America and an honorary member of N.A.W.M.D. on "The Outlook for 1950."

A special guest at the meeting was James T. Flannery, James T. Flannery Co., Jersey City, N. J., president of N.A.W.M.D.

1949—A Year Of Consolidation of Past Advances for TAPPI

A. E. Bachmann

President, Technical Association of the Pulp and Paper Industry

The year of 1949 for TAPPI was essentially a year of consolidation of past advances rather than a year of extensive changes.

The magazine *Tappi* ended its initial year of publication with universally good acceptance from all members with regard to its format and scientific contests. It has also been established on a financially successful basis. The consummation of this project into a successful finished job was largely the work of your secretary, R. G. Macdonald. His infinite capacity for hard work and rapid mastery of detail in the publishing field did much to produce the fine result obtained. This is repetition of the remarks I made concerning this subject at the Pacific Coast meeting, but it is deliberately done in an effort to emphasize his prodigious accomplishment.

The editorial board, under the leadership of C. J. West, has admirably upheld the scientific integrity of the articles published in the magazine and has also through its efforts done much to improve the calibre of the papers, one of the fundamental ideas behind publishing the magazine.

In order to concentrate on the Pacific Coast meeting only four meetings were held this year. In April, a Coating meeting, sponsored by the Coating Committee and the Kalamazoo Valley Section, was held in Grand Rapids, Mich. This meeting drew a large, nationally distributed attendance and gained many very favorable comments for the quality of its program and interesting mill visits to the coating plants in Kalamazoo.

In September an old style general fall meeting was held at Portland, Ore., under the sponsorship of our Pacific Section. As the result of eighteen months of the most intensive preparation on the part of many committees under the leadership of general co-chairmen A. G. Natwick and R. J. LeRoux and program chairman and chairman of the Pacific Section W. F. Holzer, a truly remarkable meeting was held. The woods trip, mill visits, entertainment, technical program, and luncheon speakers were unsurpassed. In the eyes of many blasé convention goers of long standing the series of high lights produced there surpassed any TAPPI meeting of the past.

In October the Fourth Engineering Conference of the Pulp and Paper

Industry was held in Boston under the sponsorship of the Engineering Division and a local committee headed by M. Jacobs, George Pringle, general chairman, and J. W. Hemphill, secretary, arranged an exceptionally fine technical program. This meeting was described by many as the best engineering conference yet.

In November a meeting of the Fibrous Agricultural Residues Committee was held at Terre Haute under the sponsorship of the Terre Haute Paper Co. and the chairmanship of S. I. Aronovsky.

While the meetings this year were few in number, they were all exceptionally high in quality of programs, mill visits, and entertainment features.

Committees

Our active committees have produced their usual fine volume of scientific papers bringing out the latest developments in their respective fields.

The work of some of them was exceptionally noteworthy and should be singled out for individual attention. Among these the work of the Coating Committee over a period of years under the direction of Werner Kaufmann has culminated in the production of a series of monographs and the merit-worthy coating convention held last year in Grand Rapids.

The Engineering Division under the direction of George H. Pringle and the chairmen of the respective subcommittees produced many important and interesting papers in connection with the Fourth Engineering Conference. This division has produced from within its ranks high grade and active leadership for its committees. The devotion to purpose of this group deserves our highest commendation.

Another very active committee over many years, which annually holds its own conference in the Middle West, is the Fibrous Agricultural Residues Committee, under the leadership of S. I. Aronovsky. Its usual meeting was held at Terre Haute in November with large attendance from the Strawboard Industry.

Sections

The work of all our local sections continues to improve constantly with respect to the development of attractive technical programs and a consequent higher attendance at meetings. The sections have also done much to develop responsible leadership among the younger members whose assiduous efforts have produced fine results in practically all our sections.

We note with pleasure that some of the sections are sending into national headquarters more and more detailed accounts of their meetings with discussions and papers to be printed in *Tappi*. This we feel will result in the greater dissemination of much valuable material formerly not available.

Future Plans

During the past year the Executive Committee has worked to lay the groundwork for some of the next series of advances that loom before us as essential parts of our future program.

The Publications Management Committee, under the able leadership of Vice-President K. P. Geohegan, has held several meetings this year to determine a detailed publications policy, not only pertaining to the relationship of all TAPPI publications to other industry publications but also to coordinate the intra-TAPPI policy with respect to the relationship among the various TAPPI publications such as the *Tappi* magazine, the monographs, TAPPI sponsored books, TAPPI Data Sheets, Testing Methods, etc. It has made considerable progress to date but there still remains considerable work before all the policies can be completely formulated.

One of the prime objectives of TAPPI for the future is definitely to organize various parts of the existing literature into more readily accessible forms for reference purposes. Pro-

vision is already being made for a considerable expansion of the data sheet activities by various committees eventually to lead to an engineering handbook on paper technology. During the year also we have proposed the idea and delineated in detail a technique for expanding the organization of the Paper Manufacturing Committees in order to get down to smaller groups possessing common problems. It is hoped that such groups will be able to make a more concerted attack on the various parts of the subject of papermaking principles and start us on the road to producing a science of paper technology. To this end we expect to produce shortly an illustrative example of the results of such a technique.

The Routine Testing Methods, which were gathered through the cooperation of our sections are now at the printer and will soon be available. We expect that their revision and augmentation will provide much of practical value for some of our committees to work on during the coming year.

We expect to start this year the organization of a Cost Engineering Committee to work out standard definitions and methods of calculation for various operating efficiency ratios and, to attempt in some fields, where sufficient interest exists, to get inter-mill comparisons for purposes of establishment of better operating standards together with examination of methods for producing them.

Membership Obligations

TAPPI this year has again increased considerably in membership. It now has over 4200 members. This membership includes administrative executive, production managers, managers, superintendents, engineers, chemists, and physicists. Among others, it also includes a broad range of occupations from the allied industries. This large and variegated membership is a tribute to the accomplishments of TAPPI in the past. It is also at least partly due to an expectancy for continued accomplishment in the future.

To properly serve such a large and constantly growing membership it is essential that TAPPI continue not only to progress along established lines of endeavor but also that it expand and diversify its activities to produce meetings and material for a wider range of interests. Your Executive Committee, technical committee members, and local section committees have constantly attempted to initiate new projects and give them initial impetus in an effort to meet this need. These committee members are busy people who give freely of their time and research knowledge to improve the status of TAPPI in the interests of the membership and their companies.

In order to maintain the continual progress of TAPPI it is also vitally necessary that a greater proportion of the TAPPI membership individually take part in its programs and activities. Membership in TAPPI implies a responsibility on the part of its entire membership to take an active part in some phase of its activities so that all can benefit from the work and experience of each other.

Some of the specific benefits available to the members and their mills by attendance at TAPPI meetings and active participation in its programs are in many cases very practical. They derive from these activities many new ideas concerning equipment, process, and control methods, which they can investigate for a practical feasibility of incorporating with value into their own procedures. They receive corroboration of their own ideas, independently arrived at by others with similar problems, to confirm their own judgments on impending decisions on complex equipment process and research problems. The mutual exchange of experiences arising from time consuming effort and often considerable expense applied to differing problems, save time and cost for all participants. Exchange of mutual experiences also often brings to light some of the equipment and raw material rigidities which often preclude the completely successful solution of their specific problems by individual mills.

The everyday work of the TAPPI membership embraces practically all the sciences, such as chemistry, physics, biology, as well as mechanical, electrical, civil, and cost engineering and paper technology. To a considerable extent the daily work of all of us calls for varying degrees of specialization or semi-specialization in one or more of these fields, but also it involves a knowledge of many related sciences or phases of other sciences. As a result it is necessary for all of us to acquire a relatively broad background in many related fields. Helping each other through cooperative working together on TAPPI committees creates a literature which enables us to get abreast of the essentials of a related phase of science or paper technology. It is here that TAPPI has one of its principal functions.

To produce these benefits to the greatest degree most effectively TAPPI needs very much more active participation of more of its members in its various committee activities.

In late years research and engineering staffs and facilities have been considerably expanded in order to create new products, to increase production, and to develop better methods of operation resulting in improvement in quality of our existing products. Great emphasis has also been laid on the necessity for continuous cost reduction in all its phases to minimize wastes of materials, steam, heat, power, and man hours. This entire improvement function demands that we all do many more things better, and it is a logical function for TAPPI members to work at them in their various organizational capacities. Management looks largely to its TAPPI members to perform various phases of the improvement function. TAPPI as an organization accepts this responsibility and hopes that the calibre of its work will continue to merit the support of our industry management to the extent that they will encourage their men to take a more active part in TAPPI activities as an essential part of their educational training.

Tissue Assn.

At meetings held at the Waldorf on February 21 and 22 various groups of the Tissue Assn., Inc., elected new officers. They were:—

Toilet Paper—Sam Lopin, secretary, Hudson Pulp & Paper Co., chairman; Michael Gilman, president, Gotham Tissue Mills, vice-chairman; *Paper Towel*—William J. Servotte, vice-president, Mosinee Paper Mills, Inc., chairman; Gordon Ware, secretary-treasurer, Straubel Paper Co., vice-chairman; *Facial Tissue*—Robert M. Young, vice-president, Ponds Extract Co., chairman; William Medoff, vice-president, Sitroux, Inc., vice-chairman; *Wrapping*—S. H. Reed, Crystal Tissue Co., chairman; B. W. Sweet, Sweet Bros. Paper Mfg. Co., vice-chairman; *Jumbo Roll*—George W. Dunn, Dunn Paper Co., chairman; Ralph W. Burrows, Burrows Paper Co., vice-chairman. *No. 2 Wrapping Tissue*—J. F. Sutor, Rondout Paper Mills, chairman; J. L. Sullivan, North End Paper Co., vice-chairman.

Gift Wrapping—Joseph M. Katz, Paper Craft Corp., chairman; Joseph Jaret, Ben Mont Papers, Inc., vice-chairman.

Highlights of Dr. Joel Dean's Address

In his address before the Tissue Industry Meeting, Dr. Joel Dean remarked that, Trade Channel or functional discounts get rapidly obsolete from changes in relative importance of rival distribution channels, changes in distribution costs and new court decisions. These discount structures need revision for many firms. Standards for determining such prices include—1) determination of exact job to be performed by each unit in distribution chain 2) estimates of ladder of costs of various kinds of distributors 3) estimates of different costs for selling different products and performing different functions in selling them 4) Competitor's discounts 5) the costs of distribution through substitute channels such as mail order chains. The need for a complete price policy audit and research approach to pricing was emphasized.

Vegetable Parchment Mfrs. Assn.

At the association's annual meeting held on January 25 in New York, E. R. Leonard, vice president in charge of sales for Paterson Parchment Paper Co., Bristol, Pa., was re-elected chairman of the Vegetable Parchment Manufacturers Assn.

Guideposts For Business Planning In 1950 And Beyond

MURRAY SHIELDS

Vice President and Economist, Bank of the Manhattan Co.

How "Good" Will 1950 Be?

In almost all of the year-end forecasts it appears to be taken for granted that the year 1950 will be a "good" one and that, even if the last half turns out to be less "good" than the first, production and income for the year as a whole will be fairly close to that of 1949.

It should be emphasized, however, that this does not mean that most observers are prepared to assume that the year 1950 will be "good" in the sense that underlying economic conditions will be sound. On the other hand, there is much to support the view that whether the level of business is "good" or not the year will be a *difficult* one, for several reasons:

1. The not-so-cold sequel to World War II promises to keep everyone in a state of continuous anxiety as to the fate of the world.

2. In the pre-election months political considerations are likely to generate concern as to whether the course to be taken in the Nation's economic development will be toward the new objective of economic expansion as expressed in the Presidential Messages or toward welfare Socialism.

3. Many industries are probably going to be constantly in fear of onerous restrictions by government agencies and of crippling strikes by organized labor, and

4. The intensification of competition is almost sure to make it considerably more difficult for individual concerns to hold their positions in the markets and to maintain satisfactory levels of profits.

The probability is that 1950 will bring a continuation of the "long readjustment" from the war and early postwar booms, and therefore, it would be a mistake to minimize the risks which are inherent in a situation where the present level of demand is dependent on such temporary, artificial or "shot-in-the-arm" stimulants as the disbursement of veterans' insurance funds, the rapid expansion in installment and mortgage credit, artificially high agricultural price pegs, a level of exports supported by foreign aid grants, a large deficit, abnormally easy money policies, and a high level of capital expenditures by business.

It therefore would appear prudent in the present environment to exercise more caution than is implied by the use of the word "good" in describing the outlook for the next year or so.

Guideposts for Planning in 1950

In making up production schedules and financial budgets and in setting purchasing, promotion and personnel policies for 1950 allowance might appropriately be made for the following:

1. *No boom and no bust.* The year 1950 is not expected to witness a major depression comparable to those experienced in the early 20's or the early 30's and, in view of the extensive readjustment now under way in agricultural incomes, foreign trade and some of our major markets, no sustained and substantial expansion in demand appears to be likely. Some individual industries may decline sharply while others may continue to expand, but the chances seem to be heavily against either a boom or a bust this year.

2. *A set-back in the second half of the year.* With the order books as full as they are the basis for several months of good business volume has been laid. However, before the year is out it is likely that some of our major industries will be ready for the transition to buyers' markets, that inventory accumulation will have brought an unbalanced position in certain commodities and that the adverse effect of devaluation on our exports and imports will be felt. It is likely, of course, that if signs of a downturn occur in the pre-election months, the Administration will use the powers at its disposal in an effort to prevent a politically embarrassing recession, in which event the initial impact of the decline might well be moderated and its full force delayed. Even though it is not possible to be sure that a sharp decline will be experienced in the last half of the year, it probably is prudent to be prepared for one if it does come.

3. *No pronounced inflation or deflation.* Commodity prices are expected to be mixed but generally steady in the first few months of the year with a tendency toward weakness for a time thereafter. This is not to say that over the years ahead the inflationary influences inherent in the Nation's labor, fiscal and monetary policies are unlikely to bring one or more upsurges in the price level. But during the coming year agricultural surpluses, exhaustion of the backlogs, higher efficiency in the new plants recently brought into production and devaluation of the soft currencies probably will prevent inflationary forces from becoming effective. On the other hand, the Administration appears to be determined to use a variety of pegs, subsidies, etc., to hold in check what otherwise might be serious declines in some markets.

4. *Intensification of competition.* In general the profit situation probably will be more difficult in 1950 than it was in 1949 and many business managements are likely to find it either desirable or necessary to accelerate the efforts started in 1949 to reduce costs, increase efficiency, limit exposure to risk, strengthen promotional

Presented at the Annual Meeting, Sulphite Paper Manufacturers Assn., Inc., New York, N. Y., February 20, 1950.

effort and, in general, "button up their organizations." Such policies may be essential not only to meet the sharper competition which clearly seems to be in prospect but also to take full advantage of the opportunities for expansion which will develop when the readjustment finally has been completed.

Beyond 1950

While the outlook for the next year or two is clouded by inevitable uncertainties, several developments of 1949 provide a solid basis for confidence that the stage is slowly but surely being set for another of the periods of expansion, progress and prosperity which have punctuated the history of this country.

1. *The psychological position has improved considerably.* Several research agencies and distinguished students (the Brookings Institute, the Twentieth Century Fund, The National Planning Association and others) have recently appraised the Nation's economic potential with a degree of optimism which is in pointed contrast to the prevailing fear a decade ago that the Nation was moving inexorably toward economic maturity and industrial stagnation. Optimism is again becoming fashionable.

2. *The upsurge in population has continued.* The postwar reduction in family formation has been much smaller than expected. In addition, accomplishments in medical research during the past two decades have extended the life expectancy of our people and cut the number of working days lost due to illness — developments which presage a substantial growth in the consumption potential.

3. *The rate of technological progress has accelerated.* More and more money is being spent by business concerns, associations, educational institutions and Government for more productive research, which provides a fabulous scientific frontier of new industries and the means by which costs can be reduced and markets widened.

4. *The trend away from Radicalism is gaining strength.* In what people pay to read, see and hear there is evidence that they are less susceptible to the flimsy promises of Welfare Socialism and are returning to the middle road of Progressive Capitalism.

Thus, while the next two or three years will doubtless bring their quota of difficulties, perplexities and danger and while it is quite improbable that we have achieved a depression-proof economy, the longer trend in the United States is likely to be so strongly upward as again to provide an opportunity for accomplishment and satisfaction in building successful business enterprise.

Conclusion

There is no reason for deep pessimism about our economic future for there isn't anything the matter with this nation's economy that a moderate reduction in government expenditures and taxes, a modification of our labor laws and of government policy toward business and a moderate change in our fiscal and monetary policies won't correct. And there is very little that is either mysterious or controversial about these changes. They have been spelled out in detail by many national business organizations and research agencies and between the various recommendations there is now no substantial disagreement as to what must be done.

The vital consideration in our long range outlook is that we are now in a uniquely favorable position since, with population increasing rapidly and with the nation in the midst of a profoundly significant revolution in industrial, agricultural and medical technology, there is little reason to doubt that if the recommendations of these organizations were adopted, the risk of a serious depression would be virtually eliminated for many years to come and we would be at the beginning of one of the greatest periods of industrial expansion, business prosperity and increased public welfare any people ever experienced. The alternative is an unpleasant one, however, for if we fail to make the moderate but essential changes in our policies, we shall be running the risk of debilitating economic stability and of general stagnation both of which would make for economic weakness in a world where we cannot afford anything less than maximum development of our economic strength.

Stream Improvement Waste Research Symposium

Nation-wide interest was exhibited by members of the pulp and paper industry, other industries, government stream control agencies and by universities and research institutes in the Research Review and Open Panel Discussion conducted by the National Council for Stream Improvement on Monday, February 20. All aspects of the pulp, paper and paperboard industry's waste abatement and stream improvement problems were covered in this all-day meeting.

Dr. Harry W. Gehm in his address of welcome stated that the widespread interest evidenced by the large attendance, indicated the foresight of the leaders in the pulp and paper industry in recognizing the problem and providing the industry with the first large-scale industry program of pollution abatement. The research review was for the first time open to the public, because of the wide-spread interest.

Dr. William Rudolphs, Chairman of the Department of Sanitation at Rutgers University, who was in charge of the Council's white water project and an international authority on stream sanitation was panel discussion leader. The panel participating in the research review was studded with names widely known throughout the country in the field of industrial waste treatment. Professor C. J. Velz, the foremost authority on stream analysis, described the activities of the National Council's project dealing with this matter. Dr. Willis Van Horn of the Institute of Paper Chemistry and Professor R. E. Dimick of Oregon State College reviewed the extensive aquatic biology studies conducted by them. Strawboard mill waste treatment and semi-chemical mill effluent control were covered by Professor Don E. Bloodgood of Purdue University, and Dr. N. F. Murphy of Virginia Polytechnic Institute, respectively. Progress in kraft mill, deinking waste, and filtration problems were covered by W. A. Moggio, A. J. Palladino and V. C. Behn, research engineers of the National Council staff. Dr. N. L. Nemerow, project leader at Rutgers University, described laboratory and field development work on white water, rag, rope and jute wastes. J. F. Baigas, Massachusetts resident engineer, for the Council, described the methods employed for mill and stream surveys. Dr. Harry W. Gehm outlined the activities of the sulfite waste liquor research program conducted under the direction of Dr. D. Gleeson of Oregon State College. In all, ten major projects were reviewed in which thirty-five individual research and development problems were attacked.

The interest of those present in the proceeding was evidenced by the great number of questions asked and the amount of discussion which took place under the able leadership of Dr. Rudolphs. Those attending the meeting agreed that it provided an excellent "birds-eye" view of the problems of the industry, its progress in meeting them, and future avenues of approach to their solution, and were convinced that the method of approach employed by this industry was the best devised to date.

Permit Pipe Line Construction

DENVER, Colo.—The Colorado Public Utility Commission on February 17 issued an order permitting construction of a 45-mile gas pipeline from the Piceance Creek, Colo., area to the site of the Columbine Development Co.'s proposed 15-million dollar pulp mill near Newcastle, Colo.

The application to build the 8-inch pipeline was made earlier this year by the Grand Valley Gas Co. Cost of the line is estimated to be $800,000. M. G. and J. W. Garmen of Pampa, Texas, head the company. The two men are also officials of the Texas Gas and Power Co.

There were no protests to construction of the line during the P. U. C. hearings, but officials of Rifle, Colo., near the site of the proposed mill, asked postponement of the decision until their town board could study the proposal. In issuing the written order, the P. U. C. said it would be "of great benefit to the general public."

Businessman and Congressman*

DR. EDWIN G. NOURSE

The businessman, from the nature of his calling, is always trying to look ahead. He is trying to pierce the veil of the future. Like the competent driver of a heavy truck, he wants to see what is coming before it is right on him so that he can steer a safe course and adapt his action to coming situations.

This is the point of view of the individual businessman. But taking businessmen as a group, their actions are themselves a part of the coming situation. Whether they make commitments or refuse to make commitments and whether their investment, price, labor, and inventory policies are economically skillful or clumsy will go far toward determining whether the road ahead will be a smooth and safe road of national prosperity or a rough and dangerous road of business depression.

Congressmen also are trying to look ahead to the economic conditions of 1950 or the decade of the 50's. They feel a responsibility to take such actions, pass such laws, and authorize such appropriations as will be wise in view of coming economic situations. Of course some of them are just trying to catch votes, much as some businessmen are trying to make a "killing" regardless of broad economic consequences. And it is true of Congressmen, as of businessmen, that what they do becomes a factor in the future business conditions which they are trying to analyze and forecast as a basis of the economic program they develop.

At the opening of 1950, both business and government spokesmen were inclined to take a very optimistic view of 1950. Government spokesmen have been inclined to take a rosy and complacent view not merely of 1950 but of the ensuing five years or even 50 years. Perhaps it was purely accidental but perhaps it was significant that the President's address at the Jackson Day dinner took a somewhat more sober view of the situation. He said: "We have the task of maintaining prosperity and protecting our economy from depression. We have the question of handling the Nation's finances and the national debt. These are grave issues."

One thing that engenders a good deal of confidence as we move forward into 1950 is that we still have considerable business momentum from the high level of governmental, business, and private spending which characterized 1949 and the other postwar years and which has not yet entirely spent its force. But while we derive confidence from the strong underlying situation of our economy, we should not fail to scrutinize it closely to see whether any of this strength is of a temporary character, or whether some of its elements are being weakened or exhausted instead of being fully maintained or kept growing.

Since the latter part of 1949, I have been suggesting that some of this strength in the business situation is of a rather superficial and temporary character. Some of it seems to me of the "shot-in-the-arm" variety. I believe we need to question whether present good business may be exhausting some of the strength of support factors. For instance, can we foresee a gradual waning of the construction boom, particularly industrial construction? I suspect that management will be a little disposed to expand capacity very greatly from present levels until they have felt out the ability of our normally growing market to continue to absorb the full product of our present capacity. Prudence will dictate also that they consider investment plans in the light of obligations assumed under recent pension contracts or others which will probably develop in increasing numbers.

I think we have to consider also whether there have been drafts on consumer reserves. Have liquid savings been impaired during strikes in certain basic industries? Have bonds been cashed and have store credits mounted? Certainly we know that consumer credit has been growing at record rates and now stands at new peak levels. With down payments at a minimum and repayment time so much extended, we can certainly not count on volume continuing to expand at so rapid a rate in the future and may even have to anticipate some curtailment. Likewise our current market is being supported by the refund of nearly three billion dollars in G.I. insurance premiums that will probably end by the third quarter of this year.

In any attempt to read the unfolding picture of 1950, we certainly need to give attention to the figures of employment and unemployment for January as reported by the Bureau of the Census. Civilian employment dropped a million and a half from December to January, and it was nearly half a million below 1949. Unemployment rose to about 4½ million as compared with a little over 2½ million a year earlier. This is about 7 percent of all civilian workers as compared with 4½ percent in January 1949. Some of this increase is explained by bad weather and seasonal factors, but unemployment figures will certainly bear close watching month by month from here on.

They say "there is nothing so nervous as a million dollars." Businessmen certainly need to strike a good balance between business prudence and paralyzing fear. There is no occasion to go into the storm cellar. If this were done by businessmen generally, they would bring on the very condition they dread. Forward commitments should be reasonable but should take full account of the strong growth factor in our economy. They should also be based on acceptance of the philosophy of the Employment Act. This Act is based on the belief that we have enough economic "know-how" to keep our industrial system on a more stable base than the boom and bust days of the past. It is the responsibility of Congressmen both to develop favorable business institutions and to give businessmen confidence that a solvent economy will be maintained and that inflation will not undermine the business structure.

*Highlights of an address by Dr. Edwin G. Nourse, 89th Annual meeting of the Writing Paper Manufacturers Assn., New York (Waldorf-Astoria) February 21, 1950.

Nashua River Improvements

FITCHBURG, Mass.—The condition of the Nashua river should be improved considerably by this summer, Joseph F. Baigas, Jr., New England resident engineer for National Council of Stream Improvement told Fitchburg Rotarians at their regular meeting yesterday at Hotel Raymond.

The guest speaker noted that Crocker Burbank & Co. Assn. mills have installed settling tanks and equipment to purify their industrial waste water dumped into the river. Work at the construction of similar equipment will be started shortly at Fitchburg Paper Co. and Falulah Paper Co.

Legal Events of the Past Year of Interest To The Paper Industry*

MALCOLM K. WHYTE

The outstanding feature of the legal events of the past year has been the ever-increasing insistence of the Department of Justice and the Federal Trade Commission to expand by judicial legislation the whole field of anti-trust prohibitions. In order to allay any suspicion that I am an alarmist, let us recapitulate some of the significant contentions advanced by these two Government agencies during the past several years:

1. The concurrent use by members of an industry of a particular trade practice is proof of conspiracy in restraint of trade. This doctrine of "conscious parallel action" if pushed to its logical extreme would make anyone guilty of price fixing if he sells at what he believes to be the market price.

2. The standardization of your product at the invitation of the Department of Commerce may be proof of conspiracy to fix prices.

3. Proof that approximately 75% of the dollar value of the aggregate sales of a stable commodity was at list price and 25% was off list price shows a price fixing conspiracy. (*Tag Manufacturers Inst. et al v. F.T.A.* 174 F. 2d 452, *Allied Paper Mills v. F.T.C.* (CCA 2d) 168 F. 2d 600 cert. den. S.Ct. February 20, 1949).

4. A price available to everyone at the point of delivery is price discrimination in violation of the Robinson-Patman Act because of the varying "mill net" prices involved.

5. Any quantity discount, not justified by cost variation, no matter how small, is an "injury to competition" under the Robinson-Patman Act if the aggregate is more than a nominal sum.

6. The acquisition by a manufacturer of the plant of a customer or a supplier is in restraint of trade.

7. To purchase parts from a wholly-owned subsidiary is in restraint of trade.

8. Any requirements contract is in restraint of trade.

9. For a purchaser to inform a supplier that unless he reduces his price, he will not purchase from him, is threat of an illegal boycott and blacklist.

10. To buy too cheaply from a supplier is in restraint of trade because it makes him sell at too high prices to others to balance up.

11. It is restraint of trade to make large volume purchases and then wholesale some of it and retail the rest.

12. It is restraint of trade to require your distributor or dealer to be wholly loyal to you and not to sell competing products.

13. It is restraint of trade if you own two businesses for them to deal with each other except as strangers.

14. A patentee cannot prescribe the price at which his licensee can sell.

The foregoing catalogue seems formidable, but some of the items listed are already established case law and others are well on the way to becoming law by judicial legislation. It certainly behooves us to do what we can first to obey the law as we understand it and, secondly, to prevent by whatever fair means we can further uneconomic and harmful distortions of the law as it was intended to be by those who enacted it. The only way to prevent the courts from further amending the anti-trust laws by the judicial legislation method is by the corrective action of Congress. The prospect is not encouraging.

*Abstract of an address submitted at Annual Meeting of American Paper and Pulp Assn., New York, N. Y., February 23, 1950.

National Gypsum Improves Safety

NEWBURGH, N. Y.—National Gypsum Co. makes Safety their business. Close attention to industrial housekeeping and teamwork on the job have resulted in a 45 percent reduction in the number of accidents at National Gypsum Co.'s New Windsor Paper Plant for 1949, William T. Cabe, plant manager reported recently.

"Injuries on the job were cut from 11 in 1948 to 6 in 1949," Mr. Cabe stated.

"We are going to redouble our efforts to lower this figure even further in 1950."

Meanwhile Merrill C. Pollard, Director of Safety for all of National's twenty-three plants, mines, and quarries, stated that accidents in the company as a whole has been reduced 35 percent during the past year.

"The total of all reportable accidents in 1949 was 425 compared to 658 the preceding year," Mr. Pollard said.

"There were no fatal accidents and three of our plants completed the year without a single lost-time accident. The New Windsor Paper Mill was one of them."

The Local plant has operated 835 days without a lost-time accident and Mr. Cabe attributes the record set at the local plant to the fact that all employees joined in a campaign to keep the work area free of dangerous conditions and to constantly remind each other of the importance of caution on the job.

C. P. P. A. Woodlands Convention

OTTAWA — The convention of the Canadian Pulp and Paper Association, Woodlands Section, will be held in Montreal, Que., on March 22-24.

Old Colony Election

WESTFIELD, Mass.—Old Colony Envelope Co. stockholders at their annual meeting on February 10 re-elected the board of directors, who, meeting afterwards, renamed Joseph A. Chadbourne as president and S. Guy Ashley as vice-president.

Directors re-elected were Ashley, F. Nelson Bridgham, Henry F. Burrows, Joseph A. Chadbourne, George P. Rice, Horace F. Rice, Arnold T. Wiggin, and George E. Williamson. Henry F. Burrows was elected treasurer and George P. Rice, assistant treasurer.

International and Kimberly Awarded

NIAGARA FALLS, N. Y.—The International Paper Co. and the Kimberly-Clark Corp. won awards in the recent safety campaign sponsored by Associated Industries of New York State.

Argentina Again Curbs Newsprint

BUENOS AIRES—The special Congressional commission assigned police last night to the newsprint warehouses of the Presna and the Nacion.

The newspapers regard the stationing of police at their warehouses as a further constriction of newsprint. Both papers must now obtain permission from a high police officer before any quantity of paper, no matter how small, will be withdrawn from the supplies that the Government had permitted them to have on hand.

Plastics And The Paper Industry

EDWIN C. JAHN

Director of Research, New York State College of Forestry, Syracuse University

Growth of Plastics Industry

Plastics as in important material in the paper industry is relatively a newcomer. This is not surprising since the plastics industry itself is young. In reviewing the history of the plastics industry one is struck by two facts, (1) the steeply ascending production curve and (2) the rapidly expanding breadth of kinds of materials produced—a fan-shaped graph, in which, as we proceed forward in time, we get into a wider and wider jungle of new resins and plastics.

Production of plastics during the decade 1939-1949 increased five-fold, reaching a figure for last year of one and a quarter million pounds (not including the synthetic rubbers). This is truely a remarkable growth for any industry. But the growth in complexity of the industry and multiplicity of resins produced is equally dramatic. During the twenties "the phenolic and pyroxylin materials were the alpha and omega of the industry".[1] Then in rapid succession during the thirties came the development of cellulose acetate, urea-formaldehyde, the vinyl resins, the acrylic resins, polystyrene, synthetic rubbers, ethyl cellulose, and cellulose mixed esters all of which are common-place today.

During the decade just completed many new and outstanding resins were developed. The roll-call includes nylon, polyethylene, polyfluoroethylenes, cellulose propionate, carboxymethylcellulose, hydroxyethyl cellulose, unsaturated polyesters, melamine-formaldehyde resins, furans, polyvinylidene chloride, styrene copolymers, acrylonitril copolymers, epoxy resins, silicones, perpene resins, and many others.

Keeping pace with the development of new resins are the engineering developments in machines and processes. Outstanding developments in fabricating techniques and new processes have been achieved during the past decade, thereby greatly expanding the use possibilities of the resin materials. These include electronic heating, blow molding, pulp molding, post-forming of laminates, low pressure laminating, just to name a few.

The technical people in both the paper and plastics industries soon realized that plastics might be combined with paper in various ways to improve certain properties and to develop entirely new ones. The resultant growth of the use of plastics in the paper industry, particularly in paper converting, has been spectacular. Plastics is no interloper in the paper industry. The two materials have been happily married and a separation is unthinkable.

The nature of the plastics industry with respect to (1) the many resin materials produced, covering a multitude of different properties, and (2) the diversity of process and application techniques is reflected in the combination of plastics with paper. The breadth and variety of plastics-paper combinations is very extensive. The many resin materials available permit the development of paper combinations with a great diversity of properties. Furthermore, the developments in machines and equipment is constantly widening application techniques and processes. New resins, new machines, new paper applications and new products are being added at almost a dizzy rate.

What are Plastic Materials?

Plastics belong to that group of materials having large molecules, i.e., high polymers. Dissecting the word polymer, we find that "mer" means part (in this case the simplest chemical-structural unit) and "poly", of course, means many. Hence, polymer implies a molecule containing many repeating parts. Plastics are divided into two broad groups (1) the thermosetting resins, which are heat-hardening and become irreversibly infusible when heated and (2) the thermoplastic resins, which either *per se* or with a suitable plasticizer exhibit continuous flow under heat and pressure, the change from the solid to a viscous liquid being reversible. Examples of the thermosetting type are the phenolics, urea resins and vulcanized rubber. Examples of the thermosetting group includes the cellulose esters and ethers, unvulcanized rubber, polystyrene, etc. There is a special group of thermoplastic materials known as the elastomers, which are the unvulcanized natural and synthetic rubbers. The elastomers have high reversible extensibility.

Methods of Application of Resins to Paper

The first efforts to add resins or plastics substances to paper were to improve such properties as printability, writability and gloss. Natural high polymers were used, such as rosin, starch, casein and glues. This art is fairly old and developed slowly. With the advent of the synthetic resins, efforts were made to improve further the properties of paper and this led to the development of entirely new properties and products from paper-plastics combinations. The growth and development of the plastics industry, therefore, directly supplements and expands the paper industry.

A large number of techniques have been developed for applying plastics to paper. To a considerable extent the method of application depends upon the nature of the plastic and/or the desired end-product. However some plastics may be applied by two or more methods and likewise some products may be made by a variety of plastic application techniques. A general classification of methods of application is as follows:

Tub sizing — the glazing or partial penetration of the paper sheet.

Presented at the Meeting of the Materials Committee, American Paper and Pulp Assn., Waldorf-Astoria, New York, February 22, 1950.

[1] Kline, Gordon M., Modern Plastics, 27, No. 5, p. 205, 1950.

Saturation—complete penetration of the paper sheet.

Beater addition—adding the plastic material in fine particles suspended in water to the pulp suspension in the beater.

Coating—this may be accomplished by knife coaters, roll coaters the air knife coater, or cast coaters.

Film lamination—calendering a plastic film, such as a vinyl copolymer on a paper previously treated by a solvent coating of a low molecular weight copolymer.

Types of Paper-Plastics Combinations

Only a brief survey of paper-plastics combinations and their uses can be given in this short talk. I shall present this survey in the form of a convenient outline based on the types of products produced, namely sized paper, wet strength papers, flexible boards, grease-and moisture-resistant papers, coated papers, laminated papers, laminated structural products, and pulp molded products.

Sized Papers—The sizing of papers by various natural substances such as rosin, starch and casein is an old art. These materials are related to plastics in that they are high polymers, and they are still widely used. More recently some of the synthetic plastics have come into the picture and there is active research on new plastics sizing agents. Sizing is accomplished by the tub sizing or beater addition methods.

Wet Strength Papers—Wet strength papers, although a relatively new development, are already an accepted important commodity. Maps, toweling, wrappers, bags, and other items where wet strength is desired are manufactured. Thermosetting resins are used—mostly ureas and melamines, although phenolics are now coming into the picture. The resins are added to the stock in the beater, where they are first dispersed and then settle out on the fibers. A small quantity of these resins has a very marked effect on the wet strength of the paper.

Flexible Boards — Flexible boards are produced by saturating a soft absorbent paper sheet with thermoplastic resins such as plasticized acrylates or vinyl compounds, or elastomers, including neoprene, thiokol and other synthetic rubbers as well as natural rubber. The plastic is usually incorporated by a saturation process, involving the passing of the paper sheet through a bath containing an emulsion or solution of the resin or elastomer. Many shoe parts (midsoles, insoles, sock linings and quarter linings) and simulated leather products are made from saturated papers. These products are often subsequently coated with a resin such as cellulose nitrate to give a good surface. A flexible wall board is also made by the film lamination process, whereby a vinylcopolymer film is calendered onto a sheet previously saturated with a suitable lower molecular weight copolymer. The product resembles leather.

Grease- and Moisture-Resistant Papers — Functional papers having grease-resistance or moisture-resistance can be made by a number of techniques involving beater addition, tub sizing or saturation. The type of resin employed depends upon the functional use desired. Some resins, such as polyethylene are both grease- and water-resistant. Other resins which may be used are the cellulose derivatives, nylon, neoprene, polystyrene, silicones, and polyesters.

The shortage of metals during the war greatly stimulated the development of laminated assemblies for machine and structural purposes (bazooka tubes, fuel tanks, airplane parts, etc.). A few years ago laminated assemblies were bonded at very high pressure, usually over 1000 p.s.i. requiring expensive molds and presses. Shortage of equipment during the war led to the development of low pressure and contact processes, employing practically zero pressure. Another important development is in the making of lightweight, strong, highly insulating honeycomb sandwich panels and flooring.

Paper for laminated assemblies must meet definite specifications. It must be strong, yet absorbent and be of uniform formation. The paper is impregnated with the resin by a saturation process employing a resin dissolved in a suitable solvent. The resins employed are of the thermosetting type, such as the phenolics, ureas and melamines. However, newer thermosetting copolymers or cross-linked polyesters have been more recently introduced. Also lignin plastics are being used to some extent.

Pulp Molding—The molding of pulp to make picnic plates, toys and many papier-mache articles is an old art. However, this art has been extended by the development of a process for incorporating or saturating resins into the pre-formed pulp and then subjecting the pre-form to a final molding under heat and pressure. Thermosetting resins are used in this process. In this way very strong, tough dimensionally stable articles can be made, such as dishes, trays, toys, book-ends, decoys, etc.

The Future—Probably in no field of paper technology is there as great development activity as in paper-plastic combinations. The plastics industry continues to contribute a host of new materials each year. As more new plastic materials are developed, the potential number of future materials is increased because of the increased possibilities for combinations and interreactions. Hand in hand with the development of plastics materials is research on their application to paper. New resins may mean new processes of application, modification of properties, development of new properties and new products.

At present there is research on the application of new copolymers to paper, such as the new elastomer-vinyl copolymers and of plasticized resins. Such resins are expected to give greater permanent flexibility to the product. New film laminations with polyethylene and saran are among other recent developments. There is no doubt in the minds of those acquainted with this field but that the 1950 decade will see paper plastics developments equally as great, if not surpassing those that have taken place during the past decade.

Coated Papers—One of the most important applications of plastics to paper is in the field of coatings. A large number of machines and processes have been developed for applying a plastic coating to paper. Furthermore, the plastic material may be applied in different media, i.e., in water solution, as an emulsion in organic solvents, as plasticized dispersed pastes (vinyl copolymer organosols), as plasticized resins (vinyl copolymer plastisols) and as hot melts. There are two basic types of hot melts, one being a resin such as polyisobutylene, cyclized rubber, natural or synthetic rubber or coumarone-indene resins, blended with more than 50 percent of paraffin wax. The other is based on a cellulose derivative or other thermoplastic resin, which may be considered a type of lacquer and which is brought into coating condition by the use of heat instead of solvents.

The number of possible formulations of resins applied in the above media is almost unlimited. Practically all of the thermoplastic types are used. The emulsions or water dispersions include the elastomers, i.e., latices of natural or synthetic rubbers, as well as acrylic resins, polystyrene, polyvinyl acetate and polyvinyl chloride. In solvent coating, the plastic is dissolved in an organic solvent and applied as a lacquer. Many resins are used including the cellulose derivatives, polyethylene, the natural and synthetic rubbers, polyamides, vinyl polymers, polystyrenes, polyacrylates, etc. For obtaining heavy coatings, the organosols (paste resins) or plastisols may be used.

Coatings are applied to papers to develop functional properties and for decorative purposes. The most important[1] functional properties are:

1. Heat sealability
2. Structural strength
3. Gas and water resistance
4. Grease and oil resistance
5. Mold resistance
6. Chemical resistance
7. Pressure sealability
8. Flexibility
9. Water resistance
10. Solvent resistance
11. Protection of printing or undercoat from heat
12. Scuff resistance

The decorative coatings obtained by coatings are gloss, color and design.

[1] Grumbles, Creed, Solvent Coatings, Proceedings of 1948 Plastics Conference Plastics Committee of TAPPI, Appleton, Wisconsin, August 16-17, 1948.

Specialty coatings may require other features — playing cards, for example, must not only have gloss, scuff-resistance, etc., but a pleasant "feel." Usually the coating must serve multiple functions.

Coated papers are widely used for packaging (wraps, bags, cartons, bottles, cups, frozen foods) for decorative uses, for seat covers, mats, belts and many other purposes. Also the dividing line between coating and printing is a narrow one, the gravure printer can easily become a paper coater without many changes in equipment.

Laminated Papers — The laminants involve a specialized type of coating. A highly plasticized, tacky, non-hardening, flexible substance is coated on the paper by one of the paper coating processes. This forms a tacky adhesive surface so that the sheet may be laminated to another surface, which is usually a clear film, but may be another sheet of paper, a fabric, or a wood or metal surface. During the past decade, there has been an increasing number of laminations of paper to plastic film such as polyethylene and saran. These products have many of the functional and decorative properties of the coated papers.

Laminated Structural Products — Laminated assemblies made from layers of paper impregnated with resin and bonded by heat form the basis for a large and thriving industry. These laminated products are widely used in the electrical and machine industries, for insulators, gears, pulleys and a multitude of machine parts. They possess high impact strength and toughness, are not subject to corrosion, have a dampening effect on sound (eliminating rattle and drumming in steel cars and machinery), good electrical insulation, dimensional stability and high strength to weight ratio. They can also be easily manufactured into complex shapes and can be drilled, turned and sawn. These properties make these products of great industrial value. They are also used in making trays, helmets, light flooring, containers, tubes, panels, decorative table and counter tops, and many other products.

Tariffs And Their Relation To The Domestic Economy

RICHARD H. ANTHONY
Secretary, The American Tariff League

The appearance of a Tariff League representative at a meeting of exporters might seem to be as perilous as the fly's acceptance of the spider's invitation to visit her parlor, but I assure you I anticipate no bodily harm. Indeed, I feel a community of interest, for the League subscribes to the truth in that old cliche: "Trade is a two-way street." All we ask is that you recognize that two-way traffic requires a certain amount of regulation; that full freedom of traffic to wander where it will, although desirable perhaps as an ideal, is as unrealistic in practice as is free trade.

Is the exporter actually facing any problems fundamentally different from the salesman in the domestic market? Your domestic sales potential is not the sum total of demand for your and your competitors' products, but rather the demand of that segment of our population which is able to pay for them in dollars. By the same token foreign demand for U. S. goods, unaccompanied by ability to pay in dollars, should not be taken as a true measure of sales potential abroad, unless you are in favor of continuing the present system of selling to foreign customers and sending the bill to the U. S. taxpayer. The fly in that ointment is that you are also a taxpayer and so are paying your customers' bills, at least in part.

When the exporter is thwarted from selling abroad all he thinks he should, he may become aggrieved and in his grief he is likely to forget that he has no inherent right to demand free access to any but the domestic market. Foreign sales are frosting on the cake. It's nice to have the frosting, but it is more important to have the cake.

However, there are some people, including government officials, who will tell you that you can have the cake and the frosting and eat it all, too, by getting the United States to increase imports from foreign countries and so provide more dollars abroad with which to pay for your foreign sales.

Now, we in the League have no quarrel with that advice up to the point where they tell you that you should injure or even liquidate some domestic producers in order to buy more competitive products from abroad.

Our tariffs used to be set and revised in accordance with the needs of our domestic economy. Now they are talked of as expendable, or, to be more exact, the American industries that depend on tariffs, are now being treated as expendable, in the effort to foster imports and so balance our foreign trade at current abnormal export levels. Some of these industries are being marked for sacrifice and when they go, men lose jobs, investors lose money, suppliers lose customers and the country loses some of the elements in a diversified economy.

Can we stand the loss of the Waltham Watch Company? We have only two old-line watch manufacturers left. Who benefits from liquidating Waltham? Switzerland perhaps? That admirable, democratic country is worth having as a friend, but is she making reciprocal sacrifices on the altar of friendship?

Here is what Prof. Friedrich A. Lutz of Princeton said about the Swiss at the last annual meeting of the Academy of Political Science:

"Switzerland has no shortage of dollars, and yet she adheres to a system of bilateral trade agreements, chiefly because she aims at preserving a certain structure of her exports by making the partner countries to these agreements import watches and other Swiss export goods and allow their citizens to travel in Switzerland. She has even gone so far as to make balances of Swiss francs accumulated by Argentina and the Bizone of Germany inconvertible into dollars, so as to force these countries to use the balances for purchases or travel in Switzerland."

Perhaps Switzerland must resort to these measures to protect her economy and her democratic processes. Whatever the answer, these Swiss measures are restrictive and discriminatory, whereas our low-average tariffs are the mildest kind of trade regulation.

Let's get down to fundamentals. We need certain raw materials and we like certain finished products that come from abroad. In order to induce the foreigner to send them to us we must send him what we have that he needs or wants. You can disguise and complicate the problem ad infinitum by the introduction of currency, exchange, etc., but the basic fact is that our for-

Presented at the Meeting of the Export Committee, American Paper and Pulp Assn., Waldorf-Astoria, New York, February 22, 1950.

eign trade starts with a deficiency on our part which must be paid for by transfer of a portion of our production. The latter-day idea that the amount of goods we can or want to ship abroad should be the measure of what we take in, even though some domestic producers go bankrupt in the process of balancing income and outgo, puts the cart half a mile ahead of the horse.

The latest agency to urge that we should artificially foster our imports at the expense of certain of our domestic producers is the Economic Cooperation Administration.

The ECA had two jobs to do: 1, geographical containment of communism, and 2, fostering economic recovery of foreign nations. In Europe both goals have been accomplished. Communism has made no further encroachment to the west; and the European ECA countries, except Germany, have either surpassed or achieved approximately their pre-war production and export positions quantitatively.

Now ECA says, in effect: We are getting ready to pull out of Europe and when we go we want the incoming and outgoing elements in the U.S.-European trade to balance, and furthermore to balance at the current U. S. export level. Translated into figures, ECA's suggestion means that Europe must expand its exports to the United States by $3.5 billions, an increase of 300 percent or more. Clearly, Europe is in no position to meet this extraordinary demand, no matter what inducements the United States may offer. Yet, ECA publishes a list of U. S. commodities on which there are individual tariffs of 25 percent or greater and says, in effect: Slash those and help close the gap.

We say it misleads the American public and lays the groundwork for international ill-will to offer any such illusory hope that further slashing of our tariffs, which, at an average of 13 percent, are the lowest in our history, or even eliminating them entirely, will have any appreciable effect on closing the trade gap. Cutting tariffs in such an indiscriminate fashion can ruin individual companies or even whole industries in the United States, but it will not close the foreign trade gap at the current export level.

The tariff has no measurable importance in the overall trade picture anyway. Our imports rise and fall with our national income, despite the level of tariff at any particular time. Over the long years our imports have shown a general upward trend that echoes our increase in population.

It so happens that the amount necessary to balance the current ERP dollar deficit is roughly the same as the value of the products of the entire pulp and paper industry in the United States for 1947, i.e., $3.7 billions. I assume you would not be willing to sacrifice your industry, employing 200,000 wage earners, in order to bring in imported commodities sufficient in value to equal that figure.

If you have any doubts about the misleading nature of the ECA recommendations, let me suggest that you read what the experts say and apply every statistical test of which you know. I have done both and the answer keeps staring me in the face — slashing tariffs is of no avail in tackling the trade gap problem.

Here is what Professor Seymour E. Harris of Harvard told that same Academy of Political Science meeting: "Despite the large reduction in tariffs here and increased restriction abroad, which should have facilitated European exports and depressed their imports, despite the widespread use of controls abroad to raise exports and reduce imports, despite the much larger rise in money wages here—despite all of these, the United States has been flooded with gold and the world is short of dollars."

Now, just a few figures to document the League's conclusions. The data are for 1948, but preliminary 1949 reports indicate no substantial change in the size of our foreign trade gap. According to ECA's own figures, we imported from ERP countries in 1948, $2.4 billions of goods and services, of which $1.2 billions consisted of merchandise. We exported to those countries $5.9 billions of goods and services, resulting in an export-over-import imbalance of $3.5 billions. That $3.5 billions is the gap. When people talk of cutting U. S. tariffs in order to bridge that gap they are suggesting that we expand $1.2 billions of merchandise imports from Europe to $4.7 billions, a 300 percent increase. If they expect services, such as tourist expenditures abroad, to increase also, they may shave that merchandise figure, but still it is going to be close to 300 percent. Professor Harris says that should devaluation reduce dollar prices of Western European products by a fifth, the required increase would be 400 percent. According to a year-end International Monetary Fund report, such dollar prices are nearing that margin of decline.

I won't bore you further with figures provided you will take on faith that to ask a 300-400 percent increase in production for export in Europe is a fantastic demand, particularly when ECA is asking Europe to integrate its economy and step up its internal trade as well.

Actually there is surprisingly little dispute over the figures or the facts. Practically everyone who has studied the "trade gap" problem realizes that tinkering with the currently low-average U. S. tariff is not going to solve it, but what puzzles us in the League is why, with this general acceptance of the facts, there is the illogical demand to go ahead and cut tariffs across the board, anyway. We suspect that those who make this proposal are motivated not so much by a desire to close the trade gap as by a desire just to slash tariffs.

The favorite argument for tariff-cutting as a desirable operation per se, is that it will foster the importation of goods from low-labor-cost foreign countries and thus save money for the American consumer. Let me give you the latest illustration of how wrong this argument can be.

We have had a dwindling wool-raising industry in the U. S. for some years. During the war it was essential, if not vital, because hauling wool from Australia through submarine-infested waters was uncertain and dangerous. Since the war the argument that the wool tariff was adding pennies to the price of your winter suit came to the fore, and, despite the pleas of the American wool-growers, the tariff on raw wool was cut at Geneva in 1947 for the benefit of Australia. Since then our western herds have dwindled still more and Australia has virtually cornered the market. Last month at the wool auction in Sydney, private buyers from the United States and Great Britain found themselves bidding against state trading company representatives from a number of countries for the wool clip, with the result that the price of wool has gone soaring and you may have to pay a little more for your next suit as a result, and despite the lower tariff.

While we are considering object lessons, I also would like to say that coffee, on which there is no "wicked" tariff whatsoever, is fast becoming a luxury in many households, indicating that free trade is not exactly a solution to the problem of the high cost-of-living.

The tariff still has a part to play in our economy. It is, by universal admission, the mildest and fairest regulatory measure in international trade and we need it to preserve competitive conditions in our domestic market as between foreign producers and certain of our industries with a high labor element in their total production costs. It is as unrealistic to demand the elimination of tariffs because most of those industries are not now being injured, as it is to demand the elimination of the fire department because the city's fire record has improved. There is nothing in the present state of affairs that gives us any confidence that the current abnormal level of domestic demand and production will continue in its present pattern. Indeed the pattern is beginning to change, and as it tends toward the normal situation, injuries due to unwise tariff slashing will come forcibly to public attention. Already a number of danger flags are fluttering.

Under a flexible tariff system we could vary our rates to match changing situations, but we have no flexible system at present. Our tariffs are being continuously cut by international agreement. Any move toward subsequent upward re-adjustment of a rate, however just, creates an international incident and so is avoided by our government, although foreign govern-

ments can take such unilateral actions with impunity. We have also seen that the philosophy of downward revision only of tariffs has so permeated our government departments and commissions that the trade agreements escape clause, which was supposed to safeguard our domestic producers from injurious duty cuts, has not once been invoked nor has any of the many showings of injury even been followed by recommendation that the clause be invoked. Some have not even been thoroughly investigated.

The tariff is important to certain domestic industries. It is not a tool with which you can tinker our international trade account into balance. I urge you to let the tariff perform the function for which it is best fitted, and to tackle the trade gap problem with tools better adapted to the purpose.

The American Concept

C. D. JACKSON

Before the American Paper & Pulp Assn., February 23, 1950

I would like to open this evening's thinking with a quotation from a man who has recently achieved considerable prominence. In an extraordinary document just made public, he said: "I realize that there are certain standards of moral behavior that are in you and which you cannot disregard."

How many of us here tonight recognize the author of that statement?

All right, I will take you off the hook and name him. He is Dr. Klaus Emil Fuchs, confessed traitor to his oath of citizenship and the Soviet atomic spy who may have triggered a 20th Century Armageddon.

"There are certain standards of moral behavior that are in you and which you cannot disregard."

Sixteen simple words which completely describe the chasm between our world and the Soviet world—a chasm which is unbridgeable because it is not a chasm of ocean or land, of tariff or treaty, but a chasm of the inner compulsions—of the souls of men.

And what irony that we should have to hear these words from that man! For these words are *our* birthright. A birthright which we have taken so for granted that we have to hear it out of the mouth of an enemy in order to have it come alive for us.

For a concept to have validity, it must be capable of being translated into action, and Dr. Fuchs and his former associates have been translating their concept into action every hour of every day.

When you boil it all down, isn't the problem facing America today whether or not we can translate *our* concept into action, not tomorrow, not next year, not when the Republicans come back in, but today and every day from here on out until either we have won or persuaded the enemy that he can't possibly win, and persuaded him with so much conviction that the forces of historical attrition will set in on his side of the fence.

We Americans have a tradition of action on the concept of the moral standards that are in us.

Probably every head of a family in this room has taken such action. A lot of us have carried it further in the sphere of the community, town council work, community drives, etc.

We also have a periodic sense of action-taking on a still higher level, the U. S. Government—when we vote, pay taxes, and participate in citizens' committees.

However, since the founding of this country that has literally been the limit of necessity for taking action.

Now all of a sudden we are beginning to realize that we wear still another hat, which calls for even greater and graver action-taking than ever before. That is as citizens of the world. This is obviously no startling new thought. Goodness knows how many people have stood up before groups like this over the past decade and said the same thing. But today it does have a quality which is startling and new, and that is, whereas, many predecessors were more or less "crying wolf," I can say to you, ladies and gentlemen, "This is it!" You are citizens of the world and you're going to have to do something about it. You are going to have to take action on those standards of moral behavior—or else.

You're probably by now wondering what all this has to do with the price of pulp and paper (which is, of course, too high). Well, in a sense, it has nothing to do with it, yet in another it has everything—because you are in business in America, and business is the single, most powerful manifestation of this country. In fact, I will make so bold as to say that American business has reached the point where great segments of it can lay claim to being demonstrations of those standards of moral behavior without being laughed at, and I'll give you a statistic to prove my point.

150-million Americans, about 7 percent of the world's population, produce almost 50 percent of the world's goods and consume almost everything they produce.

Certainly many blessings contributed to that extraordinary statistic. The blessing of an incredibly rich land, the blessing of a favorable political and economic climate, the blessing up to now of geographical security. Yet these blessings and hundreds of others would not add up to that statistic unless somebody had done something about it, and I submit that it was the American businessman who catalyzed nature, politics, and economics into the creation of that statistic. Over the years, his moral and social sense may not have always been of the highest. Goodness knows that pendulum has swung widely enough. But today as we strike a balance, that statistic adds up to *good* and not to evil, for it unquestionably means for the inhabitants of the U. S. the most for the most people at the least material and moral cost.

And it cannot stop—for if it stops, we go down the drain, and if we go, Dr. Fuchs will regret his confession.

Now I will readily admit that it is far easier to call for action than it is to answer your question, "Well, just

exactly what do you want me to do?" Maybe I can at least partially answer the question by giving you illustrations of three different types of action.

For the first illustration, I would like to take you to Indonesia.

(Note: Prepared text ends here. Following is roughly outlined and in capsule form, to be edited or elaborated.)

On December 28, 1949, the United States of Indonesia was born. It has half the population of the United States. It has some of the world's richest natural resources and it is desperately poor, and for that reason their democratic form of government is in daily jeopardy of being engulfed by the Communists.

The United States of Indonesia has paid us the great compliment of modeling its name on ours—and paid us a much more practical compliment by making us its biggest supplier.

Here is a chance for Point IV to go to work.

I have here an exhibit—the procurement list of the Indonesian Government—and it lists 291 items, worth $800-million. Some of the items are absolutely fantastic, but let's just take shovels.

Two million six hundred and forty thousand shovels are needed right away. If it buys them on the open market here, the Indonesian Government will pay a bill of $5½-million—which is the kind of money Joe Indonesian doesn't have. But if some enterprising Americans will set up a quite simple shovel factory in Indonesia, a minor economic miracle will occur. Hard woods for the handles are available locally. The steel for the blades will have to be bought abroad, which means here in the U. S. Such a factory will cost about $400,000. The bulk steel will cost under $500,000. So there is a net hard money saving of $4-million in Indonesia's foreign exchange account—$4-million that will surely be spent for other badly needed supplies from abroad—from the U. S.

The American businessman must decide whether he is going to insist on the fast buck now, with no real fundamental improvement in the native standard of living, and one more hammer blow against the extension of American enterprise, or whether he will settle for 25¢ in cash now, plus income from investment, plus the long-term vista of what 75-million people will buy over the years.

* * *

Illustration No. 2: — ECA, which faces many problems as it approaches its third year.

Dilemma: England, which obviously wants a share in whatever we give Europe, but refuses to be considered as a European nation.

Dilemma: Political interference in another country, which might see more advantage in taking a public stand on its sovereignty than on its poverty.

Dilemma: The European businessman's mentality. When we say "free enterprise" to a European, the vision he sees is a beautiful little cartel arrangement. How are we to get competition going in the face of this problem?

Dilemma: The polite blackmail of countries who can say, "If you cut off ECA, we will go Communist"—just as simply as that.

These basic dilemmas have as a concommitant the responsibility of the U. S. businessman not only to be informed about them, but to make his voice and weight felt through his business groups and trade associations—for instance, the American Paper & Pulp Assn.

* * *

Illustration No. 3: — Pensions, and the great opportunity they offer to the American businessman.

Problem of voted vs. earned security.

Welfare state, statism, socialism, inevitable if the Government undertakes to guarantee security of the workers.

Pensions present opportunity which if seized by business can preserve the American dynamic for decades, if not centuries, to come.

Pensions can provide tremendous socio-economic development, capable of making worker identify his security with the success of the enterprise.

All over the country industry is realizing this opportunity—and it is important for each to realize that he is not alone in grasping it. (Problem of communications.)

* * *

This is the Decade of Decision at the Mid-Century Mark.

But why should we bother about it? Why not say, "Take it away, Moscow!" Why do I say this is a time for ACTION—individual and collective.

It was all spelled out several years ago in an editorial called "The American Case," written by Walter Millis in the New York Herald Tribune of June 1, 1940:

"It is not easy to see that there is an American case; it is not easy to understand that it needs defense or to do what the defense demands. It is not easy to grasp the fact that if we believe there is a case here worth dying for, even such seemingly tremendous questions as that of whether we should or should not "keep out of war" sink to a relatively secondary and pragmatic level. It is not easy to understand that if we are to defend America we have to defend her despite her defects; we may be obliged loyally to carry out policies with which we disagree or follow leaders we would prefer to see replaced, to subordinate our private wishes, to defer our projects for reform. None of this is easy. But as we start voting billions for defense, we must realize that even billions will not buy a nickel's worth of safety unless we believe that there is an American case and that it is a case worth fighting for and worth dying for."

Those are great words—but I tell you there is indeed an American Case today—and it is a great one.

"But," you say, "we are just Paper & Pulp people. What can we do?" To that my reply is, Sure, you are only one small segment of the overall picture—but in this dangerous decade that faces us *every* businessman, no matter what his particular specialty, must take his place and do his share in shaping the great American procession which will determine our course in The Decade of Decision.

Kraft Paper Assn.

Gilford F. Henderson of Brown Co. and Wayne A. Brown of Crown Zellerbach Corp. were re-elected president and vice president, respectively, of the Kraft Paper Assn., Inc. at its Annual Meeting held February 22nd at the Waldorf-Astoria.

The following also were named to the Executive Committee: W. M. Allin, Southern Advance Bag & Paper Co.; J. B. Cowie, Hollingsworth & Whitney Co.; H. S. Daniels, Union Bag & Paper Corp.; J. R. Diggs, Mosinee Paper Mills Co.; W. J. Dixon, St. Regis Paper Co.; D. G. Driscoll, Sorg Paper Co.; K. O. Elderkin, Crossett Paper Mills; L. W. Gould, Gaylord Container Corp.; H. C. Lawless, Gilman Paper Co.; William Mazer, Hudson Pulp & Paper Corp.; S. M. Phelan, Jr., West Virginia Pulp & Paper Co.; W. C. Shorter, Camp Manufacturing Co. and George Stuhr, Southern Kraft Division of International Paper Co.

Stream Improvement Regional Chairmen Meet

Regional chairmen and vice-chairmen of the National Council for Stream Improvement's seven regional committees met with the Council's Technical Planning and Budget Committee to review developments during 1949 and formulate plans for continued and expanded activities during 1950 in connection with the paper industry's stream improvement program. Clyde B. Morgan, president of Eastern Corp. and chairman of the Regional Chairmen's Committee presided at the meeting. Officers of the seven regional committees reported in detail regarding research, direct mill service and other developments in their individual regions during 1950. Participating in the

Harriman Div. Gets Mead Trophy

HARRIMAN, Tenn.—The Harriman Div. of Mead Corp. has been awarded the George H. Mead trophy for having achieved the best safety record during 1949 among the 13 plants.

The trophy was presented to Mack Cooper, by Francis Wagner, corporation safety director, at ceremonies in Roxy Theatre.

The local safety committee consists of Williford Duncan, L. R. Forrester, Earl Lowe, Gordon Walker, and R. G. Whittenbarger. Frank Winkler is manager of the Harriman plants.

Remarks at Annual Meeting—February 22

H. G. Wintgens—President, Tissue Assn.

Nineteen hundred forty-nine was a good year for the tissue industry. Production of tissue grades on which the Tissue Assn. collects statistics estimated at 1,144,714 tons was an all time high. While overall tissue production was only slightly ahead of 1948, sanitary tissues showed gains ranging from 2.6 percent to 20.6 percent.

Primary production of toilet tissue, which is 42.5 percent of total tissue was 2.6 percent greater than 1948 with 486,348 tons.

Paper toweling representing 20.9 percent of total tissue was 6 percent ahead with 238,901 tons.

Facial Tissue (excluding facial type toilet tissue) represents 12.8 percent of total tissue and was 11 percent ahead with 147,111 tons.

Napkin stock is 9.7 percent of total tissue and was 20.6 percent higher with 110,690 tons.

Other grades which represent 14.1 percent did not fare as well, losses in production ranged from 8 to 20 percent.

Nineteen hundred fifty should be another year of high production. Business men, economists as well as government officials are predicting good business with a high level of employment and consumption. If this prediction becomes a reality, and I'm inclined to believe it will, the tissue industry should enjoy a prosperous year with production exceeding 1949.

Competition, however, will be much keener than it has been for the past ten years. Production has increased 42 percent since 1940 and additional tonnage is coming into the market this year.

This should not disturb the market "price wise" if we do an intelligent job of selling as the present economy can absorb the tonnage that will be produced.

We have a population of 151,000,000, an increase of 20,000,000 since 1940. We are presently employing 57,000,000 persons out of a labor force of 61,400,000. This is 12,000,000 more than were employed in 1940, and the purchasing power of American consumers is 50 percent greater than it was in that year.

I don't want to give you the impression that our job will be easy even with these favorable factors. It will take hard work and lots of it to sell the tonnage that can and will be produced; but it can be done, and at a profit for all, if we do the job right.

It means "Salesmanship" with more emphasis on "Selling" than ever before.

Our association is in a healthy condition. We have an active membership and our financial position is good. The foresight of our directors in building a reserve during the war years plus the addition of our two newest divisions, "Facial and Gift Wrap" is responsible for the sound position we are in today.

We should strive to increase our membership, as the larger we grow the stronger we become. There are only a few large tonnage producers that are not members, and I hope they will seriously consider joining our association.

The Tissue Assn. was organized in 1880 and has had published statistics since 1925. During the war period our association was invaluable—without it we could not have done the job that we did. In a peace time economy it is even more necessary as no business can alone solve the many problems that confront us today.

While the services of the Tissue Assn. to its members fall into two broad classifications, regular and special, it is difficult to separate the two entirely because many of the special requests are for information based on our continuing regular activities.

Among the services of the association during the past years are the following:

(1) *Statistical Services*

Monthly reports on production and shipments of the primary and converted products of the industry have been carried on for twelve years. This keeps the industry informed of current trends.

In July of last year we started a supplementary service reporting weekly the total production and shipments of converted toilet paper and towels. This additional service was an experiment which has proven so popular that it will undoubtedly be continued and possibly expanded.

Supplementing these current services, the association maintains the historical record of the tissue industry's performance. The principle vehicle for this is the Green Book, the 1949 edition of which has just been issued.

Member companies with tax problems have come to us from time to time for data which might help to establish claims with the Department of Internal Revenue.

The association has been particularly helpful at such times in interpreting the historical data to lawyers and accountants of the member company.

Market studies by individual companies also bring us requests for historical data with which the company's own personnel may not be familiar.

(2) *Label Registration*

This service was first inaugurated 25 years ago. It has been carried on continuously and has been greatly expanded and strengthened during the past ten years. The Bureau has been particularly active during the past year partly because of the effect of the Lanham Act on trade mark registration and partly because the return of full and free competition has increased the need for information on existing brand names. Over 10,000 brand names are now on file.

(3) *Brand Name Charts*

These charts are published at least once a year. All charts were brought up-to-date in 1949 and are in constant demand.

(4) *Weights and Measures*

This activity which started in 1940 as an emergency project to protect the interests of facial tissues, two-ply toilet tissue and wrapping tissue has developed into a continuing public regulations job. Our contacts with weights and measures officials show clearly the necessity of having constant vigilance to protect our manufacturers from ill advised legislation and impractical reg-

HEADQUARTERS

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Pendulum Type
Rigid Cross-Head Type
Grips for every purpose.

Pulp Classifier—4 screen
Currier Size Tester
Formation Tester
Vapometers

IPC Electric Hygrometer for MVP
Penescope Penetration Testers
Laboratory Corrugator
pH Meters

McLaurin Gummed Tape Tester
Carson Curl & Size Tester
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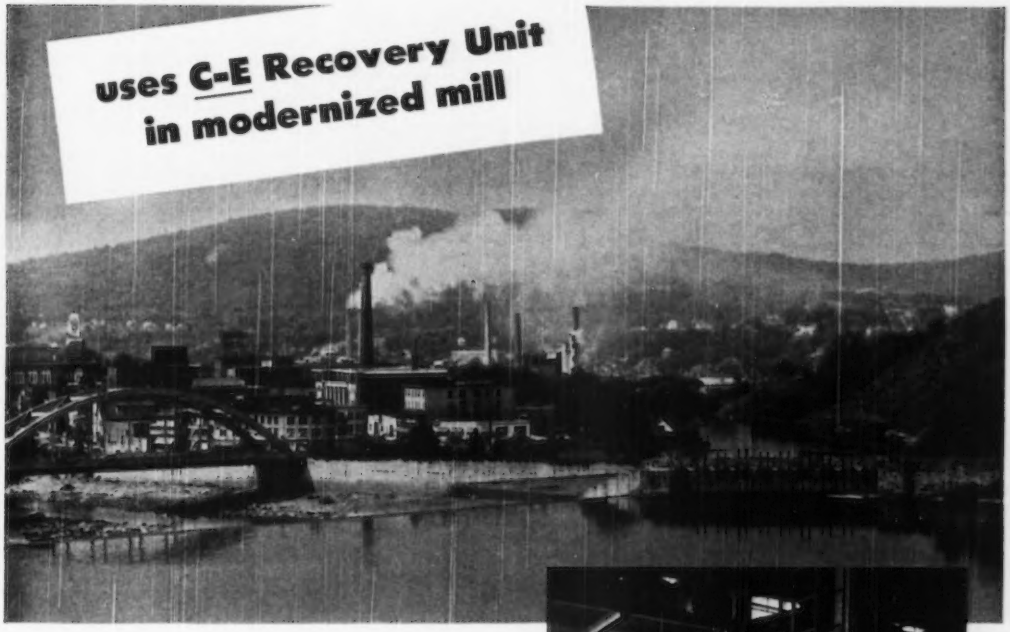
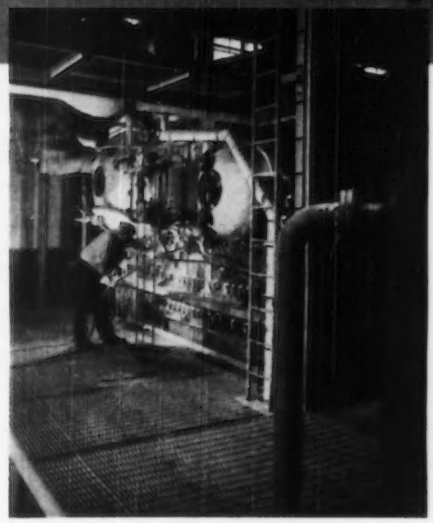


Always quick to avail themselves of the latest developments in pulp and paper manufacture, the Oxford Paper Company has just completed the final phase of a long-term modernization program at its Rumford Mill. Wide improvements have been made in the entire pulping and bleaching operation to keep up with the demand in both quantity and quality of Oxford paper.

A somewhat unusual aspect of this installation is that the C-E Recovery Unit at Oxford is designed for either soda pulping operation or kraft pulping operation. This offers Oxford a much wider utilization of both hardwood and softwood species.

The Recovery Unit itself is designed to handle 611,000 pounds of dry solids every 24 hours. It is designed for 750 pounds pressure and operates at a pressure of 700 pounds per square inch with a temperature of 725° F.

The reliability, economy and operating efficiency of the C-E Recovery Unit are well known. And, as you would expect, more and more companies have selected C-E units both for new installations and in the modernization of existing mills. B-367



Hand lancing tubes in the upper superheater area.

COMBUSTION ENGINEERING—SUPERHEATER, INC.

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PRODUCTS FOR THE PAPER INDUSTRY INCLUDE RECOVERY UNITS, STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT; ALSO PRESSURE VESSELS

ulations by state, county and municipal officials.

Experience has shown that the great majority of these officials are fair minded and glad to learn of the processes of our industry. We have established confidence in the honesty of the Tissue Assn. and its members, a very necessary aspect of this work.

(5) *Legal Services*

Association Counsel provides us with the proper legal safe-guards for our association activities and on overall industry problems.

(6) *Public Relations*

In this broad field the activities vary to some extent from year to year as the need arises. It is the duty of the staff to present the Tissue Industry to the general public and to government officials in the best possible light.

While not as important as during and immediately after the war years, frequent contacts with government officials particularly in the Department of Commerce are essential. It is also necessary to follow other public activities.

(7) *Product Specifications*

The Federal Government and other governmental units as well as industrial plants have asked the cooperation of the Tissue Assn. on specifications for tissue products. Recently the following have been revised or are in the process of revision:

Federal Specifications for Facial Tissue
Federal Specifications for Paper Towels
Federal Specifications for Toilet Tissue
U. S. Navy Specifications for Wrapping Tissue
N. Y. City Specifications for Paper Towels

During the past year the association has worked with the New York City Bureau of Supplies in connection with the increased purchases of towels for the city schools, a carry on from a 1947-48 project, and with the Department of Purchases on the problem of improved quality for paper towels. In the first instance the association's activities contributed greatly to the use of paper towels throughout the New York City Public School system. In the second case the Department of Purchases asked our association for help in writing a specification for a better quality paper towel. This fits right in with the program of the Paper Towel Product Group to develop higher standards.

There are many more association activities that I have not mentioned, as time will not permit, however, if any of our members think we should add a service that is not now available, do not hesitate to write your chairman or our executive secretary so it can be discussed at your next Division Meeting.

Philadelphia Cites Paper Firms

PHILADELPHIA—Six firms in the paper industry received citations February 15 for outstanding support of the 1950 Red Feather campaign of the Community Chest.

They are the Goldman Paper and Paper Stock Co., Huff Paper Co., Quaker City Paper Co., Saxe Paper Co., Schwartz & Co. and David Weber Co.

The firms were among nearly 300 employee groups which received simulated bronze plaques for "outstanding citizenship." Frederic C. Wheeler, general chairman of the Chest campaign, said the citations went to groups representing business and industrial firms, government offices, public and private schools, social agencies and labor unions.

The awards were made where 80 percent of employes and executives made average gifts of $6 or more to the drive in this area.

Aerial Survey Nears Completion

OTTAWA — The Speech from the Throne of the Ontario Government states that a program of aerial survey of Northern forests was "rapidly approaching completion."

Its purposes include the creation of a forest inventory, the improvement of the methods of timber management and the best utilization of our forest resources.

JUST A FEW REPEAT ORDERS—

FOR CONSISTENCY CONTROLS

Finch Pruyn & Co., Inc. (3)
Whiting & Co., Inc. (2)
American Writing Paper Corp.
Monadnock Paper Mills (2)
Tileston & Hollingsworth Co. (3)
Fitchburg Paper Co. (2)
Erving Paper Mills (3)
Burrows Paper Corp. (2)
Groveton Paper Co. (3)
Marcalus Mfg. Co., Inc.
Lincoln (3)
Howard Smith Paper Mills Ltd. (3)
Glatfelter, P. H., Co. (2)
Rhinelander Paper Co. (5)
Prairie State Paper Mills, Inc.
St. Regis Paper Co.
Harrisville (2)
Deferiet (4)
Kalamazoo (5)
Nicolet Paper Corp. (2)
Gotham Paper Mills (3)
Kelly-Forsyth Corp. (3)
Champion (3)

FOR MASTER SYPHON SYSTEMS

Glatfelter, P. H. Co.
Parsons Paper Co.
Strathmore Paper Co.
Smith Paper Inc.
St. Regis Paper Co.
Kalamazoo
Harrisville
Watervliet Paper Co.
Howard Smith Paper Mills Ltd.
Alliance Paper Mills Ltd.
Oxford Paper Co.
Diamond Match Co.
Eddy, E. B., Co.

SALES ENGINEERS
who are always at your service

In the East: A. P. Wagenknecht, Pittsfield, Mass.
In the Midwest: L. J. Lyndhurst, Kalamazoo, Mich.

POIRIER CONTROL COMPANY

Waterville, Maine

SPECIALISTS IN STOCK AND VACUUM CONTROLLING EQUIPMENT FOR PULP AND PAPER MILLS

Dual controls for consistency and volume for paper machines. Regulating distributing box for basis weight to multi cylinder machines. Consistency and volume governors for large production. V.V. consistency controls for application without return to chest. Automatic master syphon system for fourdrinier flat suction boxes, washers, savealls, vacuum filters, thickeners, Kamyr wet machines. Stock recirculating units for finishing jordans. Consistency regulators. Weight regulators. Valves—Scat, Butterfly, Pressure Reducing, Diaphragm Hydraulic.

FINANCIAL RECORD

PREFERRED STOCKS	Per Share Earnings: Calendar Year 1948	Per Share Earnings: 12 Mo. to Approx. 9/30/49	Indic. Annual Divid. Rate	Feb. 20 Approx. Market Price
Armstrong Cork Co. $3.75 Cum.	$46.33*	$38.47*a	$3.75	$101⅜
Armstrong Cork Co. $4.00 Cum. Conv.	46.33*	38.47*a	4.00	112½
Celotex Corp. 5% Cum.	26.42c	7.59e	1.00	17⅜
Champion Paper & Fibre $4.50 Cum.	99.97f	37.50j	4.50	100½
Container Corp. of Amer. 4% Cum.	105.41	90.43	4.00	104¾
Crown Zellerbach $4.20 Cum.	63.92i	57.02e	4.20	104⅜
Dixie Cup Co. $2.50 Cum. Conv. Cl. A	10.10	10.44	2.50	53⅛
Flintkote Co. $4 Cum.	83.25	61.44	4.00	104½
Robert Gair Co., Inc. 6% Cum.	17.08	12.88	1.20	18⅜
International Paper Co. $4 Cum.	263.00	245.41	4.00	105¾
Johns-Manville $3.50 Cum.	209.89	204.89	3.50	124½
Kimberly Clark Corp. 4½% Cum.	80.74	70.92	4.50	105⅞
Kimberly Clark Corp. 4% Cum. Conv. 2nd	41.59*	42.20*	4.00	115½
MacAndrews & Forbes 6% Cum.	62.23	64.10	6.00	137
Mead Corp. 4¼% Cum.	73.46	49.00k	4.25	89½
Mead Corp. 4% Cum. Conv. 2nd	29.91*	19.93k*	2.00	37
Paraffine Cos. Inc. 4% Cum. Conv.	156.11	56.46m	4.00	103½
Rayonier Inc. $2 Cum.	16.43	10.76	2.00	31⅝
St. Regis Paper Co. 4.40% 1st A	79.90	29.04m	4.40	89
Scott Paper Co. $3.40 Cum.	59.06	52.36	3.40	94½
U. S. Gypsum Co. 7% Cum.	314.45	283.37m	7.00	188¾
United Wallpaper Inc. 4% Cum. Conv.	(d)0.79	(d)2.97m	2.00	26⅜
West Virginia Pulp & Paper 4½% Cum.	79.45c	61.28p	4.50	109½
COMMON STOCKS				
APW Products Co.	$0.73	(d)$1.01	—	3½
American Writing Paper Corp.	(d)0.15	0.05	—	6⅜
Armstrong Cork Co.	7.54	6.13a	$3.00	49⅝
Celotex Corp.	7.21c	1.87e	1.00	20⅛
Certain-Teed Prods. Corp.	4.02	3.09	1.00	17⅜
Champion Paper & Fibre	8.70f	3.20j	2.00	33½
Congoleum Nairn Co.	5.78	4.92a	2.00	28⅜
Container Corp. of America	10.12	8.50	4.00	42⅛
Crown Zellerbach	7.16i	6.33e	2.00	32⅜
Dixie Cup Co.	6.70	7.00	1.50	38½
Eastern Corp.	4.76	(d)0.07	—	14½
Flintkote Co.	5.86	4.14	2.50	31½
Robert Gair Co., Inc.	2.67	1.96	0.70	7⅛
Great Northern Paper Co.	4.63	5.21	2.80	43½
International Paper Co.	8.36	7.80	2.50	36¾
Johns-Manville Corp.	5.22	5.07	2.50	46⅝
Kimberly Clark Corp.	5.02	4.32	1.65	28½
MacAndrews & Forbes Co.	3.68	3.79	2.50	40½
Marathon Corp.	4.11c	3.29e	1.40	27½
Mead Corp.	6.36	3.98k	1.60	17
National Container Corp.	2.28	1.04	0.40	7⅛
Paraffine Cos. Inc.	2.45	0.85m	1.20	16¾
Rayonier, Inc.	9.09	5.52	2.00	27⅞
Ruberoid Co.	10.72	8.52	3.25	55⅛
St. Regis Paper Co.	2.71	0.89m	0.60	8
Scott Paper Co.	4.15	5.38	3.00	70⅝
Sutherland Paper Co.	6.02	4.62m	2.50	39⅜
Union Bag & Paper Corp.	9.17	5.01m	2.25	28⅛
United Board & Carton	2.04b	(d)1.61g	—	8⅜
U. S. Gypsum Co.	15.04	13.51m	9.00	119
United Wallpaper	(d)0.10	(d)0.01m	—	3½
West Virginia Pulp & Paper	11.33c	8.58p	3.00	47⅝

(a) 12 months to approximately 6/30/49
(b) Year ended 11/23/48
(c) Year ended 10/31/48
(d) Deficit
(e) 12 months to approximately 10/31/49
(f) 11 months to 3/31/49
(g) 12 months to approximately 11/13/49
(h) 12 months to approximately 7/31/49
(i) 12 months to approximately 1/30/49
(j) 6 months to 9/30/49
(k) 12 months to approximately 10/2/49
(m) 12 months to 12/31/49.
(p) 12 months to approximately 1/31/50
(*) Earnings per combined preferred shares.

Dividends Declared

Hinde & Dauch Co. of Canada, Ltd., has declared a dividend of 25c per share, payable April 1 to stockholders of record February 28.

The Powell River Co., Ltd., has declared a regular quarterly dividend of 50c per share on the issued shares, payable March 15 to stockholders of record February 20.

International Paper Co. at their meeting on February 14 declared a quarterly dividend of 62½c a share on the $7.50 par value common stock. This will be the first dividend paid on the common stock since the two-for-one split became effective December 20, 1949. The Board also declared the regular quarterly dividend of $1 a share on the cumulative $4 preferred stock. Both dividends are payable March 27 to stockholders of record at the close of business February 27.

Propose Sulphate Wood Resin Standard

WASHINGTON, D. C. — Notice was given last week by the Department of Agriculture of intentions to establish a new standard for a kind of rosin, tentatively designated as sulphate wood rosin, obtained as an amorphous, transparent, vitreous residue of resin acids by the distillation of tall oil and having properties and appearance similar to gum rosin or wood rosin.

Oral hearing on the proposed new standard will be held at 10 a.m. on May 9, in room 3709 of the south building, Department of Agriculture, Washington. Additional information concerning the proposed new standard can be obtained from the chief of the naval stores division, Production and Marketing Administration.

Casein Procurement Authorized

WASHINGTON, D. C.—Procurement of casein up to $60,000 from Latin American sources was authorized by the ECA during the first week of February. The casein is for shipment to Austria.

New Construction at Dexter

DEXTER, N. Y. — Work is now in progress at the Dexter Sulphite Pulp & Paper Co. on a two-stage bleaching system complete with washing and other necessary equipment.

The job will cost approximately $140,000.

Building

- **FOR THE PAPER INDUSTRY**
- We design, build, and equip paper and pulp mills ... steam generating plants ... and facilities for eliminating stream pollution.
- Under one contract and one responsibility, we deliver jobs complete, ready for operation.
- We also furnish engineering reports and surveys. Current cost data available at all offices.

The H.K. Ferguson Co.
INDUSTRIAL ENGINEERS AND BUILDERS

THE FERGUSON BUILDING • CLEVELAND, OHIO
OFFICES IN NEW YORK, HOUSTON, CHICAGO, CINCINNATI AND LOS ANGELES

PRICES

The prices below reflect general market quotations at the mill level on the standard grades in which the normal volume of business is being done. Does not include occasional spot offerings.

NEW YORK

Delivered Ports

Standard News, per ton—

Rolls, contract	$100.00/ —
Sheets	115.00/ —

F.o.b. Mills, Carload freight allowed, dock N. Y.

Kraft— per cwt., 40# base wgt.

Standard Wrapping Rolls	$6.50/ —
No. 1 Wrapping Rolls	7.25/ —
Standard Bag	6.25/ —

Tissues—per ream 25x36 (480) 10 lbs. 2500 lbs. or more

Wh. No. 1 Frd...‡	$1.40 / 1.55
Wh. No. 1 M. G...‡	1.40 /
Wh. No. 1½...‡	1.30 / 1.35
Wh. No. 2...‡	1.10 / 1.15
Kraft Non-Tar...‡	1.25 /
White Non-Tar ...‡	1.52½/

Toilet—per case of 100 rolls—1 M sheets.

Unbleached 4½x4½	$5.75/ —
Bleached 4½x4½	6.95/ —
Bleached 4½x5	8.80/ —
Per Case of 50 rolls—2000 sheets	
Unbleached 4½x4½	$5.75/ —
Bleached 4½x4½	6.80/ —
Per Case of 100 rolls—1000 sheets	
Facial, 4½ x 5, 2 ply	$8.95/$9.45

Paper Towels—per case of 3750.

Wh. Jr. M'tif'd 9½x9½	$5.25
Br. Sr. M'tif'l 10x12	3.60
Dr. Jr. M'tif'd 9½x9¾	3.10
Br. Jr. Sgl. fold 10x10¾	3.15
Blchd. 7½ x 11, 24/25 rolls	$3.95/$6.25

Manila, per cwt.

No. 1 Jute Tag 40 lb., sheets*	$15.05/$17.50
Reg. Jute M.F. Manila, sheets*	13.50/ 15.50
Wrapping Manila	8.75/ 10.50
Printing Manila	10.00/ 11.00

* Less usual allowance for rolls.

Boards, per ton—

Filled News	$72.50/$75.00
Plain Chip	70.00/ —
Blchd. Mla. L-d. Chip*	97.50/ —
White Pat. coated*	115.00/ —
Kraft Liners 42 lb.	100.00/
Kraft Corr. .009	105.00/
Binders Boards	110.00/116.00

* Base Prices per 10 tons. Less than 10 ton-but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following prices are representative distributors' resale prices:

Rag Content Bonds and Ledgers—
White, 20 lb.

Bonds	4 Ctns.
	per cwt.
100% Rag Ex. No. 1 ‡	$54.45/ ——
100% Rag ‡	47.55/ ——
75% Rag ‡	36.80/ ——
50% Rag ‡	30.35/ ——
25% Rag ‡	26.75/ ——

Ledgers	4 Ctns.
	per cwt.
100% Rag Ex. No. 1 ‡	$55.90/$57.60
100% Rag ‡	48.80/ 48.90
75% Rag ‡	38.05/ ——
50% Rag ‡	31.70/ ——
25% Rag ‡	28.05/ ——

Sulphite Bonds and Ledgers
White, 20 lb.

Bonds	4 Ctns.
	per cwt.
Watermarked	$16.75/$17.70
Plain	15.60/ 16.10

WORLD WOOD PULP MARKETS

First Quarter Contract Prices, Per Short Air-Dry Ton

	Delivered, with varying freight allowance		Full freight allowance* On dock Atlantic Ports		
	U. S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$65.00/ —	$65.00/$67.50			
Sideruns Pulping News	65.00/ —	65.00/ 67.50			
Soda, Bleached	113.00/ —	113.00/ —		Competitive	
Sulphate, Bleached	118.00/126.00	126.00/ —	125.00/128.00		Competitive
Sulphate, Unbl'd North'n		82.50/105.00	82.50/ 85.00	with	
Sulphate, Unbl'd South'n	80.00/ 82.50				
Sulphite Blchd. (S'ftw'd)	118.00/ —	118.00/ —	118.00/ —	Domestic	Competitive
Sulphite, Blchd. (H'dw'd)	113.00/ —				
Sulphite, Unbleached	100.00/ —	100.00/ —	100.00/ —	Grades	
Sulphite, Unbl'd (Glassine)	105.00/ —	105.00/ —	104.00/105.00		

* Ex dock quotations average $5.00 lower.

WASTE PAPER MARKET

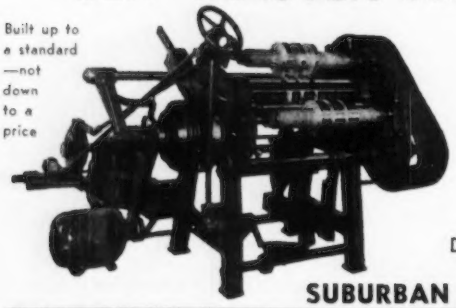
Prices to Mills*, (Per Ton) F.o.b. Cars Shipping Point

	New York	Philadelphia	Boston	Chicago
	Feb. 10	Feb. 17	Feb. 18	Feb. 6
No. 1 Mixed Paper	$7.00/ 8.00	$7.00/ 9.00	——/ 7.00	$10.00/ —
Boxboard Cuts	7.00/ 8.00	7.00/ ——	/ 8.00	13.00/ —
Mill Wrappers	10.00/ 11.00	10.00/ 11.00	11.00/ 11.50	12.00/ —
No. 1 News	12.00/ 13.00	10.00/ 11.00	9.00/ 10.00	18.00/ —
Over-issue News	15.00/ 16.00	12.00/ 14.00	12.00/ 14.00	21.00/ —
Corrugated Containers	14.00/ 15.00	16.00/ ——	——/ 14.50	22.00/ —
New Corrugated Cuts	20.00/ 21.00	20.00/ —	19.00/ 21.00	25.00/ —
Double Kraft Ld. Corr. Cuts	35.00/ 36.00	30.00/ 35.00	25.00/ —	45.00/ —
Used Kraft Bags	30.00/ 35.00	25.00/ —	25.00/ 30.00	25.00/ —
No. 1 Brown Kraft Paper	35.00/ 37.50	25.00/ 30.00	25.00/ 30.00	30.00/ —
Super Resorted Br. Kraft	37.50/ 40.00	32.50/ 37.50	35.00/ 40.00	40.00/ —
New Br. Kraft Env. Cuts	65.00/ 70.00	60.00/ 65.00	60.00/ 65.00	55.00/ —
New Br. Kraft Cuts	42.00/ 45.00	45.00/ ——	45.00/ —	50.00/ —
No. 1 Gdwd. Shvs.	28.00/ 30.00	25.00/ ——	25.00/ —	23.00/ —
White Newsblanks	57.00/ 60.00	55.00/ 60.00	55.00/ 60.00	45.00/ —
No. 1 Flyleaf Shvs.	35.00/ 37.50	27.50/ ——	35.00/ 45.00	40.00/ —
No. 1 Soft Wht. Shvs.	85.00/ 90.00	65.00/ 70.00	65.00/ 70.00	60.00/ —
Super Soft Wht. Shvs.	90.00/ 95.00	75.00/ ——	85.00/ 95.00	70.00/ —
Hd. Wht. Shvs.	90.00/ 95.00	80.00/ 85.00	90.00/100.00	80.00/ —
Hd. Wht. Env. Cuts	110.00/115.00	90.00/ 95.00	105.00/ —	90.00/ —
New Manila Env. Cuts	65.00/ 70.00	60.00/ 65.00	60.00/ 70.00	55.00/ —
Col. Tab Cards	35.00/ 40.00	35.00/ ——	35.00/ —	40.00/ —
Manila Tab Cards	65.00/ 70.00	65.00/ 70.00	75.00/ 80.00	65.00/ —
No. 1 Mixed Ledger	35.00/ 37.50	30.00/ 32.50	34.00/ 37.50	40.00/ —
White Ledger	45.00/ 50.00	45.00/ 50.00	40.00/ 50.00	45.00/ —
Mixed Books & Mags.	13.00/ 15.00	12.00/ ——	12.00/ —	15.00/ —
No. 1 Rep'd Hvy. Books & Mags.	25.00/ 30.00	22.00/ 25.00	23.00/ 25.00	25.00/ —

* Includes brokers' fee.

SLIT-MASTER *Slits Cellophane Foil and Acetate Stock*

Built up to a standard —not down to a price



Ruggedly Designed — Precision Built
for
Lasting, Trouble-Free, Economical Service
Ball Bearings and Roller Bearings Throughout
IN FOUR WEB-WIDTHS: 24"-36"-42"-52"

•

DUPLEX SLITTERS AND REWINDERS

•

Designers and Builders of Special Paper Converting Machinery
Write for Complete Details

SUBURBAN MACHINE CO. **Cincinnati 11, Ohio**

Ledgers	4 Ctns.
	per cwt.
Watermarked	$18.20/ 19.00

White Book

Conversion Coated	Case
	per cwt.
No. 1	$19.75/$21.15
No. 2	19.25/ 19.90
No. 3	17.75/ 19.15
Machine Coated	
No. 1	16.40/ 16.65
No. 2	14.40/ 15.15
Uncoated	
No. 1 Antique (Watermarked)	16.40/ 17.90
Offset	15.15/ 16.65
A Grade E. F.	15.65/ —
A Grade S. C.	15.90/ 16.15
B Grade E. F.	14.90/ 15.15
B Grade S. C.	15.40/ 15.65

‡ Indicates a price change. Details reported in *Trends*.

Rag Market

New Domestic Cotton Cuttings

(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.	
White Shirt	$10.50/	$11.25
Unbleached Muslin	10.25/	11.00
Light Silesias	6.75/	7.75
White Black Blue Overalls	5.75/	6.50
Blue Overalls	4.50/	5.00
Fancy Shirt	4.50/	5.00
Percales	5.50/	6.00
Light Prints	5.50/	6.00
No. 1 Washables	2.75/	3.00
Bleachable Khaki	4.50/	5.00
Unbleachable Khaki	3.75/	4.50
Cottonades	4.00/	4.75
Lt. Flannelettes	6.50/	7.50
Men's Corduroy	3.50/	4.25
Women's Corduroy	3.00/	3.75
Canton Flannels, Blchd.	8.75/	9.25
Underwear Cutters, Blchd.	11.00/	11.50
Underwear Cutters, Unblchd.	10.75/	11.75

Old Domestic Cotton Rags

(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.	
No. 1 Whites, Repacked	$4.25/	$4.75
No. 1 Whites, Miscellaneous	3.00/	3.50
No. 2 Whites, Repacked	3.00/	3.25
No. 2 Whites, Miscellaneous	2.75/	3.00
Cotton Pants & Overalls	2.50/	2.75
Thirds and Blues, Repacked	2.50/	2.75
No. 1 Roofing Rags	1.40/	1.50
No. 2 Roofing Rags	1.25/	1.35
No. 3 Roofing Rags	1.20/	1.35
No. 4 Brussels & brd. Bck'd crpts.	1.15/	1.20
Roofing Bagging	1.00/	1.10

New Foreign Cotton Cuttings

(Prices to Mills, F.o.b. Dock, N. Y.)

	Per 100 lbs.	
New Dark Cuttings	$2.75/	$3.00
New Mixed Cuttings	2.75/	3.00
Light Silesias	6.50/	7.00
Light Flannelettes	5.50/	6.00
New White Cuttings	10.00/	10.50
New Unbleached Cuttings	10.00/	10.50
Fancy Shirt Cuttings	4.50/	4.75
Light Prints	4.25/	4.50
Bleachable Khaki, No. 1	4.25/	4.50
Unbl. Khaki, No. 1	4.00/	4.25

Old Foreign Rags

(Prices to Mills, F.o.b. Dock, N. Y.)

	Per 100 lbs.	
No. 1 White Cottons	$6.50/	$7.00
No. 2 White Cottons	5.50/	6.00
No. 3 White Cottons	4.00/	4.50
No. 4 White Cottons	3.00/	3.50
Extra Light Prints	4.50/	5.00
Old Light Prints	4.00/	4.25
Med. Light Prints	2.50/	2.75
Dutch Blue Cottons	3.25/	3.50
Checks and Blues	2.75/	3.00
Linsey Garments	2.10/	2.40
Dark Cottons, European	2.00/	2.10
Dark Cottons, Egyptian	1.85/	2.00
Old Shopperies	1.75/	1.85
New Shopperies	2.00/	2.25

Bagging

(Prices to Dealers, f.o.b. N. Y.)

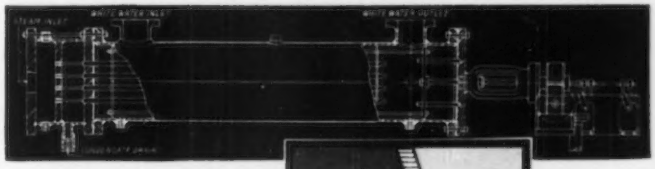
	Per 100 lbs.	
Foreign Gunny	$6.00/	6.50
Domestic Gunny, No. 1	6.00/	6.50
Heavy Wool Tares	6.00/	6.25
Foreign Manila Rope	4.50/	4.75

AT LAST IT'S HERE!

.....CONTINUOUS WHITE WATER HEATING WITH NO SHUTDOWNS FOR CLEANING.....

Paracoil Automatic SELF CLEANING WHITE WATER HEATER

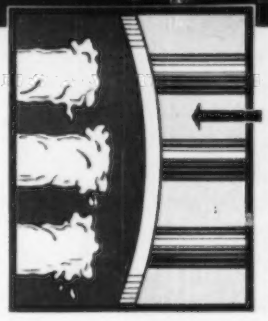
Specially Designed for the Paper Industry



HOW IT WORKS

The transverse heater baffles, which also serve as tube surface cleaners, are connected by tie rods to the yoke plate, which in turn is connected to the drive mechanism at the right. The time controls close the motor circuit at predetermined intervals. The yoke plate moves each baffle longitudinally along the tubes, until the drive mechanism reverses the action and returns the baffles to their original position.

Available in models for either manual, electric motor or hydraulic piston drive. Automatic types operate on adjustable predetermined time schedules.



BAFFLES MOVE FORWARD AND BACKWARD LEAVING TUBES CLEAN AS A WHISTLE

Patent No. 1826747
Other Patents Applied For

A BATCH OF MANUAL TYPE SELF CLEANING HEAT EXCHANGERS READY FOR SHIPMENT.

Every Inch of Every Tube Is Thoroughly Cleaned At Every Cycle!
100% Heater Capacity Available At All Times!
Standby Heating Equipment No Longer Needed!
Old Style Heater Cleaning Costs Forever Banished!

DAVIS ENGINEERING CORPORATION

1064 East Grand Street
Elizabeth 4, New Jersey
30 Rockefeller Plaza, New York 20

Domestic Manila Rope	5.00/	5.25
Jute Strings	5.50/	6.00
No. 1 Sisal Strings	3.00/	4.50
Mixed Strings	1.15/	1.30
Paper Mill Bagging	3.50/	4.00
No. 1 Scrap Burlap		
Foreign	5.50/	6.00
Domestic	5.75/	6.25
Austr. Wool Pouches	—/	6.00
New Burlap Cuttings	6.50/	7.00

MATERIALS

Aluminum, sulfate:		
coml. bags, wks.....cwt.	1.50	
iron free	2.75	
Alcohol, ethyl:		
tax free, dms. c.l.....gal.	.39	
deld. East Miss.		
Casein, acid-prec.:		
dom. sh. pt. c.l. .....lb.	.24 /	.25
imp. ex-dock .....lb.	.21¼/	.22
Caustic soda:		
c.l. wks. solid, 76%, cwt.....	3.05	
flak. & grd. 400-lb. drums....	3.45	
100-lb. drums....	3.95	
liquid 50% tanks....	2.40	
liquid 73% tanks....	2.50	
China clay:		
dom. air-float. filler, c.l. wks. ton	10.00	
water-washed	11.00	
coating	16.30	/30.00
imported, ex whse...short ton	15.20	/28.35
Chlorine:		
single-unit tanks, works..cwt	2.40	
multi-unit .....cwt.	2.70	/ 3.90
Formaldehyde:		
USP, inh. dms. c.l. wks.....lb.	.0570	
l.c.l. E. wks	.0620	
Fuel oil:		
Bunker C, No. 6 Cal. hvy		

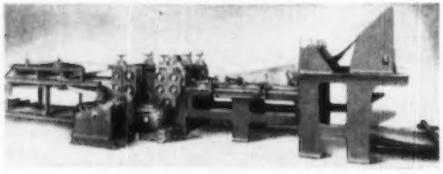
Pasted multi-wall bag made from tubes produced on No. 10 Type Tuber. May have standard satchel bottom or narrow valve bottom or combination of both as shown.

No. 10 TYPE TUBER

for producing single or multi-wall tubes for pasted bags. TOP VIEW shows traveling web feed with electric eye, side register control. BOTTOMER shown, produces satchel or valve bottoms. Takes tubes up to 28" wide, 60" long.

Built for present day needs to increase production, reduce spoilage and lower unit costs. These machines are custom-made to your requirements and will give continuous, trouble-free service. Increase your profits by speeding up production with Smith & Winchester equipment.

Multi-wall, sewed valve type, gusseted tube made on Smith & Winchester Multi-wall Tuber.



S & W MULTI-WALL TUBER

Up to 100,000 valve notch tubes each 8-hour day may be produced on this Multi-wall Tuber for sewed valve bags. One to 6 walls. Machine built in 2 sizes, 20" and 26" face. Up to 6" gussets. Tubes 26" to 50" long. Improved cross pasting units, photo-electric compensating drives and flying splice paper roll stands can be furnished.
If you have a bag problem write us.

THE SMITH & WINCHESTER
Manufacturing Company
South Windham, Conn.

SERVING THE PAPER INDUSTRY SINCE 1828

tanks, refinery .....bbl.	1.25	/ 1.55
light .....bbl.	1.65	/ 2.10
Hydrogen peroxide:		
USP, 35% cbys. E of Miss. lb.	.23½	
Lime:		
hydrated, bags, wks. Buffalo ton	13.50	
Rosin:		
B gum, drms, c.l. Savan...cwt.	5.75	
GHIK gum, do. .....cwt.	6.11	
B wood, do.....cwt.	4.25	
FF wood, do.....cwt.	5.50	
Rosin size:		
70%, gum & pale grds, tank cars, south. sh. pt....cwt.	5.30	/ 5.45
Salt cake:		
dom. bulk, c.l. wks. .....ton	22.00	
Soda ash:		
light, 58%, bags, wks....cwt.	1.25	
bulk .....cwt.	1.00	
Sodium silicate 40°:		
turbid, c.l. wks.....cwt.	1.00	
l.c.l. wks.	1.25	/ 1.35
Sodium peroxide:		
dms. c.l. E. of Miss.....lb.	.18	
l.c.l. do .....lb.	.18½/	.19
Soybean, protein:		
chem. isol, wks. c.l. .....lb. Cinn. and Chic.	.19½/	.20
Sulfuric acid:		
60° Be. cbys. c.l. .....cwt.	1.40	
E. wks.		
l.c.l. .....cwt.	1.30	/ 2.50
Sulfur:		
crude c.l. mines, contract, long ton	18.00	
f.o.b. vessels Gulf	19.50	
Export, f.o.b. Gulf	22.00	
Sulfur dioxide:		
liquid, coml. cyl. wks.....lb.	.09	
multi-unit cars .....lb.	.05¾5	
Starches:		
pearl corn, bags, c.l. Chic. cwt.	4.87	
white dextrines, c.l. Chic. cwt.	6.1[illegible]	
potato, Idaho, c.l. wks...cwt	5.00	/ —
potato, Maine, c.l. wks...cwt.	4.75	/ —
tapioca, conv. dextrines...cwt.	8.25	/ 8.5[illegible]
medium grds, Gulf ports....	6.[illegible]	
low, Siam, on dock NY....	4.50	/ 5.50
Talc:		
domestic, 50-lb. sacks, c.l. wks. .....ton	23.00	/28.00
Titanium dioxide:		
anastase, c.l. deld., bags..lb.	.19½	
l.c.l. deld. .....lb.	.20	
rutile, c.l. deld. .....lb.	.21¼	
l.c.l. deld. .....lb.	.22½	

IMPORTS

IMPORTS AT NEW YORK

Week Ending February 18

Newsprint

Madden Reeve Angel & Co. Inc., Mormacisle, Hango, 373 rolls.

Madden Reeve Angel & Co. Inc. Minnesota, Kotka, 728 rolls.

N. Y. Journal American, Markland, Liverpool, N. S., 618 rolls.

N. Y. Herald Tribune, Markland, Liverpool, N. S., 1506 rolls.

N. Y. World Telegram, Markland, Liverpool, 731 rolls.

Brooklyn Eagle, Markland, Liverpool, N. S., 590 rolls.

Brooklyn Eagle Press, Inc., Markland, Liverpool, N. S., 50 rolls.

Herald Statesman, Inc Markland, Liverpool, N. S., 42 rolls.

Trade Union Service, Markland, Liverpool, N. S. 125 rolls.

Washington Post, (Alexandria, Va.), Markland, Liverpool, N. S., 2390 rolls.
Alexandria Gazette, (Alexandria, Va.), Markland, Liverpool, N. S., 51 rolls.
(———), (Alexandria, Va.), Markland, Liverpool, N. S., 140 rolls.
Bulkley Dunton Pulp Co., Fort Avalon, Cornerbrook, 81 rolls.
Bato Co. Inc., Fort Avalon, Cornerbrook, 38 rolls.
(——), Fort Avalon, Cornerbrook, 3518 rolls.

Serviettes

(———), Media, Liverpool, 8 crates.

Filter Paper

J. & H. Berge, Media, Liverpool, 2 cs.

Tissue Paper

B. F. Drakenfeld & Co. Inc., Media, Liverpool, 56 cs. (gauze carbonizing).

Printing Paper

Tice & Lynch, American Miller, Havre, 1 cs.

Wallpaper

(——), Ile de France, Havre, 3 cs.
American Express Co., Ile de France, Havre, 2 cs.
W. H. S. Lloyd & Co., Vandalia, London, 7 bls.
Hudson Shipping Co., American Flyer, Havre, 1 cs.

Paperhangings

C. A. Haynes & Co., American Builder, Manchester, 9 bls.

Cork Tipping Paper

Cork Import Corp., American Builder, Glasgow, 6 cs.

Photo Paper

Kare Ellis Co., Vandalia, London, 5 cs. (Baryta coated).

Kraft Paper

Lafayette National Bank, Minnesota, Gothenburg, 52 rolls.
T. Barrett & Son, Minnesota, Gothenburg, 63 rolls.

Fibre Boards

Oliver Fibre Co., Minnesota, Gothenburg, 56 bls.
Aisner Chemical Co., Minnesota, Gothenburg, 49 bls.

Wallboard

F. J. Bryer, Minnesota, Gothenburg, 1 cs., 1 ble.
Elof Hansson, Inc., Minnesota, Gothenburg, 844 cths.

Boxboards

Jay Madden Corp., Minnesota, Gothenburg, 101 rolls (folding).

Writing Paper and Envelopes

H. W. Robinson Co., America, Havre, 1 cs.

Wrapping Paper

Jay Madden Corp., Mormacisle, Hango, 165 rolls, 121 bls.

Miscellaneous Paper

Hillmans Import & Trading Corp., American Flyer, Havre, 2 cs.

Rags, Baggings, etc.

E. J. Keller Co. Inc., Vibeke Maersk, Antwerp, 54 bls. heavy burlaps.
International Corp., Vibeke Maersk, Antwerp, 133 bls. cotton waste.
Green Textile Associates, Vibeke Maersk, Antwerp, 107 bls. cotton waste.
A. W. Fenton Co., Vibeke Maersk, Antwerp, 12 bls. nylon waste rags.
L. Gottlieb Co., Vibeke Maersk, Antwerp, 67 bls. jute rags.
E. J. Keller Co. Inc., Vibeke Maersk, Rotterdam, 63 bls. waste jute rags.

Rugged and Ready

—for the toughest mass handling jobs!

UNIT FRAME CONSTRUCTION

—another Towmotor efficiency feature

For counter-balancing the load, Towmotor puts as much weight as possible in the frame itself—where it adds strength and stability for maximum, trouble-free service.

See the New Towmotor Movie, "The One Man Gang," right in your office.

Towmotor's exclusive one-piece, all-steel frame construction provides an unusually sturdy unit—***extra*** rigid for rugged service, ***extra*** easy to inspect and maintain. That's why Towmotors ***stay*** on the job dependably . . . even in 24-hour daily service. Compare Towmotor with any other fork lift truck and you will see why Towmotor's rugged features make every **M**ass **H**andling job easier, faster, safer. 10 models plus standard and specially designed accessories handle loads from 1,500 to 15,000 lbs.—a Towmotor for ***every*** job. Write for a copy of "Handling Materials Illustrated." Towmotor Corporation, Division 17, 1226 E. 152nd St., Cleveland 10, Ohio. Representatives in all Principal Cities in U. S. and Canada.

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THE ONE-MAN-GANG

FORK LIFT TRUCKS and TRACTORS

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION

A. de Vries Trading Corp., Vibeke Maersk, Rotterdam, 66 bls. paperstock.
National Bank of Detroit, Vibeke Maersk, Havre, 47 bls. scrap bagging.
Loumar Textile By Products, Vibeke Maersk, Rouen, 87 bls. bagging.
L. Gottlieb Co., Vibeke Maersk, Rouen, 145 bls. rags.
Green Textile Associates, Vibeke Maersk, Rouen, 38 bls. card & spin sweepings.
A. de Vries Trading Corp., Vibeke Maersk, Rouen, 43 bls. rags.
J. Eisenberg, Vibeke Maersk, Rouen, 50 bls. rags.
Ayres W. C. Jones Co., Vibeke Maersk, Rouen, 72 bls. cotton waste.
The Lorraine Trading Co., Henry Stevenson, Alexandria, 51 bls. old light hessian bagging, 148 bls. heavy bagging.
Cowa Trading Co., Khedive Ismail, Genoa, 294 bls. cotton picker waste, 65 bls. cotton waste.
Harris Goldman Co., Khedive Ismail, Alexandria, 10 bls. hosiery cuttings.
S. J. Oritsas, Khedive Ismail, Alexandria, 3 bls. old cotton rags.
New England Waste Co., Silverplane, Tuticorin, 300 bls. cotton waste.
National City Bank, Molda, Rouen, 5 bls. woolen rags.
Amtcale Wool Service Co., Inc., Molda, Havre, 26 bls. rags.
J. Stein, Argentina, Buenos Aires, 14 bls. rags.
Riverside Mills, Argentina, Rio de Janiero, 74 bls. cotton waste.
New England Waste Co., Bretagne, Recife, 104 bls. cotton waste.
(———), Media, Liverpool, 280 bls. woolen rags, 12 bls. wool thread waste.
A. Siegle Corp., Media, Liverpool, 106 bls. jute waste.
(——), Media, Liverpool, 119 bls. jute waste.
National City Bank, Media, Liverpool, 90 bls. woolen rags.
Irving Trust Co., Media, Liverpool, 46 bls. nylon waste.
Chase National Bank, Media, Liverpool, 55 bls. wool rags.
New England Waste Co., City of Brooklyn, Colombo, 400 bls. cotton waste.
Riverside Mills, Mormacmail, Fortaleza/Ceara, 192 bls. cotton linters, 54 bls. cotton pickers.
Cowa Trading Co., Exford, Genoa, 91 bls. cotton waste pickers.
S. H. Waldstein, Exford, Genoa, 100 bls. cotton waste.
New England Waste Co., Wideawake, Santos, 50 bls. cotton waste.
Guaranty Trust Co., Black Eagle, Antwerp, 87 bls. old rags.
J. Eisenberg, Black Eagle, Antwerp, 18 bls. rags.
Castle & Overton, Inc., Black Eagle, Antwerp, 71 bls. scrap bagging.
E. J. Keller Co. Inc., Frederic C. Collins, Rotterdam, 88 bls. jute bagging.
Saxony Wool Corp., American Builder, Manchester, 12 bls. woolen rags.
Leigh Textile Co., American Builder, Manchester, 44 bls. paperstock.
A. Siegle Corp., American Builder, Manchester, 125 bls. paperstock.
(———), American Builder, Manchester, 35 bls. cotton waste.
(———), American Builder, Manchester, 39 bls. bagging.
(———), American Builder, Glasgow, 85 bls. bagging.
Chase National City Bank, American Builder, Glasgow, 71 bls. old jute bagging.
C. Comiter, Jalaketu, Bombay, 35 bls. cotton waste.
E. J. Lang, Vandalia, London, 61 bls. old jute bagging.
1st National Bank of Boston, American Flyer, Havre, 25 bls. cotton picker waste.
Bank of The Manhattan Co., Wells City, Avonmouth, 440 bls. waste bagging.

Old Rope

Chase National Bank, American Builder, Glasgow, 33 coils, 47 bls.

China Clay

Orbis Products Corp., Wells City, Avonmouth, 168 bags.

Woodpulp

Price & Pierce, Ltd., Minnesota, Gothenburg, 250 bls. wet pulp.

Woodpulp Boards

Jay Madden Corp., Minnesota, Kotka, 266 rolls, 59 bls. (solid white).
Jay Madden Corp., Marmacisle, Hango, 844 bls. (solid white), 139 tons.

IMPORTS AT BOSTON

Week Ending February 18

(———), Media, Liverpool, 9 bls. old wool rags.
American Express Co., Media, Liverpool, 1 cs. filter paper circles.
Stone & Downer Co., Media, Liverpool, 5 cs. gummed paper.
Textile & Paper Supply Corp., Black Eagle, Antwerp, 61 bls. cotton waste.
Leigh Textile Co., Black Eagle, Antwerp, 90 bls. cotton waste.

IMPORTS AT PHILADELPHIA

Week Ending February 18

A. L. Diament Co., Molda, Havre, 4 cs. wallpaper.
Wallworth Co., Black Eagle, Antwerp, 67 bls. cotton waste.
Leigh Textile Co., American Miller, Havre, 48 bls. scrap bagging.
N. Schwab, American Builder, Manchester, 20 bls. cotton waste.
Leigh Textile Co., American Builder, Manchester, 90 bls. bagging.
(———), American Builder, Glasgow, 66 coils old rope.
L. L. Berkowitz, American Builder, Belfast, 1 cs. paper transparencies.
E. W. Twitchell, Minnesota, Gothenburg, 369 rolls kraft paper.
Madden Reeve Angel & Co. Inc., Minnesota, Kotka, 438 rolls newsprint.
Pulp Sales Corp., Minnesota, Kotka, 1600 bls. prime strong unbleached sulphite pulp, 2600 bls. prime unbleached kraft sulphate pulp.
Pulp Sales Corp., Mormacisle, Hango, 3303 bls. white dry mechanically ground woodpulp, 680 tons; 8,325 bls. prime unbleached kraft sulphate pulp, 1565 tons; 460 bls. prime extra strong kraft sulphate pulp, 92 tons; 900 bls. prime strong unbleached sulphite pulp, 180 tons.
Jay Madden Corp., Mormacisle, Hango, 638 rolls wrapping paper, 1608 rolls newsprint.
Gottesman & Co., Inc., S.S. Danaholm, Gothenburg, Sweden, 2,656 bls. unbleached kraft pulp.

IMPORTS AT BALTIMORE

Week Ending February 18

Burnett Foreign Trading Corp., Vibeke Maersk, Rouen, 32 bls. cotton waste.
E. M. Sergeant Pulp & Chemical Co., Mormacmail, Buenos Aires, 500 bags casein.
National City Bank, Exford, Piraeus, 424 bls. old bagging.
Ayres W. C. Jones Co., American Builder, Manchester, 50 bls. cotton waste pickers.
Pulp Sales Corp., Mormacisle, Hango, 889 bls. white dry mechanically ground woodpulp, 177 tons; 780 bls. prime unbleached bleachable sulphite pulp, 156 tons; 592 bls. prime extra strong bleached sulphite pulp, 100 tons; 156 bls. prime bleached greaseproof sulphite pulp, 31 tons; 160 bls. prime unbleached greaseproof sulphite pulp, 32 tons; 1165 bls. prime unbleached strong sulphite pulp, 233 tons; 1366 bls. prime unbleached kraft sulphate pulp, 260 tons; 270 bls. prime unbleached extra strong sulphate pulp, 54 tons; 264 bls. insulating board.
Jay Madden Corp., Mormacisle, Hango, 299 rolls solid white woodpulp boards, 91 tons.

IMPORTS AT NORFOLK

Week Ending February 18

A. de Vries Trading Corp., Molda, Rouen, 81 bls. bagging.
A. de Vries Trading Corp., Molda, Havre, 73 bls. scrap bagging.
National City Bank, Black Eagle, Antwerp, 108 bls. old bagging.
E. J. Keller Co. Inc., Black Eagle, Antwerp, 61 bls. old bagging.

Need fresh INORGANIC colors?

Check these FERRO Advantages Against your Present Pigments . . .

- All Colors Stable to 1500°F—some to 2300°F
- Will Not Change Shade Under Heat and Pressure
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Send for this FREE booklet on Ferro Inorganic Colors. Just off the press it gives information on the Ferro Services available to users of colorants. Write today! Ferro Enamel Corp., Dept. 5, 4150 E. 56th St., Cleveland 5, Ohio.

A. de Vries Trading Corp., Black Eagle, Antwerp, 67 bls. scrap bagging.
(———), American Builder, Manchester, 40 bls. old bagging.
Ayres W. C. Jones Co., American Builder, Manchester, 88 bls. cotton waste.

LITERATURE

Bird Machine Co., South Walpole, Mass. Bulletin, "Dirtecs." Illustrates and describes dirt removal effectiveness under all dirt conditions, stock conditions and volume requirements.

Cincinnati Rubber Mfg. Co., 4900 Franklin Ave., Cincinnati, Ohio. New catalog. Covers entire line of mechanical rubber products. Of special interest are sections devoted to conveyor belting and paper mill roll covers. Also manufactures Flexicord water hose for paper mill service.

Color Research Institute of America, 176 West Adams St., Chicago 3, Ill. Booklet, "Activities and Procedures." Shows how art and color are put to scientific tests.

Glyco Products Co., Inc., Brooklyn, N. Y. Catalog, 24 pp., "Esters By Glyco." Specification and application data on a sizeable number of polyhydric alcohol fatty acid esters. Catalog, 18 pp., "Synthetic Waxes By Glyco." Gives facts, figures and specifications, including high and low melting point waxes, both hard and plastic.

Hydraulic Institute, 90 West St., New York 6, N. Y. Booklet, "Engineering Papers of Hydraulic Institute, Volume II." Section 1: Cavitation in Centrifugal Pumps. Section 2: The Centrifugal Pump in the Process Industries. Section 3: The Operation of Centrifugal Boiler Feed Pumps. Section 4: Submergences for Centrifugal Condensate Pumps. Price $2.

Minneapolis-Honeywell Regulator Co., Brown Instruments Div., Wayne & Roberts Aves., Philadelphia 44, Pa. Data Sheets, Nos. 2.9-42, 2.9-43 and 2.9-44: (1) Remote Manual Control Valve Operation Aids in Pulp & Paper Processing. (2) Transfer Valves Solve Stock Handling Problem. (3) Direct-Connected, Float Type Liquid Level Controllers for the Pulp and Paper Industry.

Nooter Corp., 1400 So. Second St., St. Louis 4, Mo. Catalog No. 150, "Beyond Your Blueprints." Designed mainly for engineering personnel. Offers a pictorial story of the fabrication of steel and alloy tanks and pressure vessels. Includes corrosion data charts.

Co. Tennant, Sons & Co., New York City. Technical Data Sheets, "Ammonia Alum, Potash Alum and Aluminum Sulphate (Iron-Free)." Describe a high quality brand of products manufactured in a new plant of Peter Spence & Sons, Ltd., England, now being distributed in this country by Tennant. Samples also available.

U. S. Dept. of Commerce, Office of Technical Services, Washington 25, D. C. Bibliographies, "Technical Reports Newsletter." Discusses creasing and water-repellency of textiles. Contains descriptive summaries of principle papers on these subjects as far back as 1937.

Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa. Book, second edition, 232 pp., illustrated, price $3.50. "Transformer Principles and Practice." Deals with all aspects of the construction and use of transformers, including underlying principles, applications, connection, testing, care and economics.

FORESTRY

Superior Nat. Forest Timber Cut

DULUTH, Minn. — The total cut of timber in the Superior National Forest from July 1 to December 31, 1949, was 10,466,000 board feet with the stumpage value set at $30,156, it was announced at the U.S. forest service headquarters here January 31. This

PEDIGREED DOGS

THE SCOTCH TERRIER — Here you have immense power in small size. Their original use was in going to ground after the fox and badger. They are now popular as pets.

The DRAPER Felt

The Felt with a Pedigree

DRAPER BROTHERS COMPANY

Woolen Manufacturers Since 1856

CANTON, MASSACHUSETTS

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BRADFORD WEST, *Pittsfield, Mass.* WILLIAM N. CONNOR, *Jr., Canton, Mass.* L. H. BREYFOGLE, *Kalamazoo, Mich.*
WALTER A. SALMONSON, *2514 Northeast 59th Ave., Portland, Oregon* L. L. GRIFFITHS, *Jr., Kalamazoo, Mich.*
HAROLD H. FISH, *Syracuse, N. Y.*

"Cleans itself . . . while filtering!"

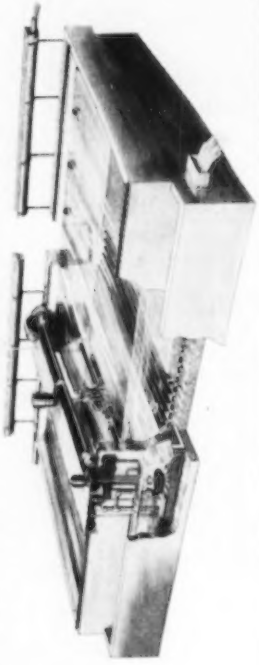
FOR PAPER MILL WATER SUPPLY OR WHITE WATER . . .

Here is a sand filter which cleans itself—automatically—with no interruption to the filtering operation. No shut-down or change-over while cleaning. A compartmented filter bed and traveling backwash mechanism automatically cleans one compartment at a time—on a predetermined time cycle or with increase in head pressure.

And . . . it's highly efficient, removing 75% to 80% of the suspended solids—90% or better if chemicals are added.

Write for Bulletin 46-14.

The Hardinge AUTOMATIC BACKWASH RAPID SAND FILTER



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SAN FRANCISCO 11—24 California St. • 200 Bay St.—TORONTO 1

figure was considerably less than the same period last year. Forest service men said it is expected that the volume and value of timber cutting during the next six months will be increased.

Of the volume cut in the forest during the last six months, 63 percent was pulpwood, 34 percent was saw timber, and 3 percent was for convertible forest products such as power and mine poles and piling; 4,200 Christmas trees were cut.

Logging and conversion of the timber cut required considerable private capital. It cost an estimated $250,000 to cut, haul and place the pulpwood at a shipping point, and to cut sawlogs and process them. This amount was for labor and materials spent in local areas.

Trees For Tomorrow Scholarship

MERRILL, Wis.—Folke Becker, president, announced this week that senior boys in 81 high schools were eligible to compete for the annual Trees for Tomorrow $1,200 forestry scholarship. The schools are located in 17 northern Wisconsin counties. After a personal interview of candidates this spring, by the scholarship committee, the winner of the award will be announced at the close of the 1950 school term.

Mr. Becker explained that the objective of the annual award is to provide financial assistance to a northern Wisconsin boy who has shown an aptitude and desire to make forestry his vocation. The winner may enter the forestry school of his choice or take his first two years of pre-forestry at any accredited college or university. Previous winners of awards are now attending the Universities of Michigan, Minnesota and Michigan State College.

Members of the forestry scholarship committee who will screen entries and interview candidates are the following officers of Trees for Tomorrow: Folke Becker, Rhinelander Paper Co., president; E. B. Hurst, Consolidated Water Power & Paper Co., vice-president; C. G. McLaren, National Container Corp. of Wis., vice-president; D. B. Smith, Ward Paper Co., secretary-treasurer; and three representatives of public agencies: Vico Isola, U.S. Forest Service, Milwaukee; W. T. Calhoun, State Conservation Dept., Madison; and Roy Ihlenfeldt, Dept. of Public Instruction, Madison.

Kennedy Issues Forestry Warning

OTTAWA—Maj.-Gen. Howard Kennedy, forestry expert and head of the recent Ontario Royal Commission on Forestry, has come forth with a warning that the full benefits of Canada's forests may be endangered under certain conditions and has made recommendations which, in his opinion, might allow permanent and profitable use of the nation's vast forestry resources.

He has expressed the viewpoint that the forests of Canada can support industries in perpetuity on the present scale provided that proper use is made and proper silvicultural treatment is applied to cutting operations and with the elimination of export to the United States of unprocessed pulpwood from Crown lands and the utilization, up to economic capacity of markets to absorb them, of all species of wood suitable for the various industries.

Maj.-Gen. Kennedy also expressed the belief that the Canadian forest industries could considerably raise their output which could be maintained in perpetuity, and that Canada's foresters already possess the "know how" to make this a reality. The scheme calls for the construction of a road system throughout the forests to permit the harvesting of mature and over-mature timber as well as to allow the young stands to reach their full development.

He has pointed out that he is in favor of a complete harvest of mature timber, drawing attention to the fact that, at present, pulpwood interests ignore the pine and the cedar, and the sawmill interests ignore the pulpwood, both neglecting the hardwood potentialities of their limits. Practically all operators cut immature stands which are located closer to their mills while allowing more remote mature and over-mature stands to deteriorate. He believed there was a remedy to be found for this in the integration of forest operations so that each would go to its proper destination. Most limit holders did not like the idea on the ground that it was radical and visionary as well as calling for a different sort of tenure of Crown lands. However, he held that this idea appears necessary and even inevitable, urging that elected representatives should be asked to bring into existence an impartial study of the idea, and, if found suitable, proper remedial measures should be adopted.

While most people really have a fair appreciation of forest problems when they are intimately concerned with them and know what is needed to maintain and perpetuate forest resources, Maj.-Gen. Kennedy indicated that there is a difference in viewpoint arising out of the difficulty of reconciling the short-term economic viewpoint of the industrialist with the long-term outlook of the forester, emphasizing that without the latter worthwhile forests in the future would be an impossibility. He added that a rational reconciliation of these viewpoints involved some complicated problems, including some measure of limit re-allocation. Industries holding far greater limits than they need, should yield their excess to become available for those suffering shortages.

Maj.-Gen. Kennedy went on record as saying that "all our forest problems are soluble if there is only a spirit of compromise among the groups concerned" and he believed sincerely that "if we solve them, Canada has a bright future with the forest industries becoming an increasingly dominant influence in national employment and welfare."

Certified Seed for Reforestation

PORTLAND, Ore.—A superior race of Douglas fir is being groomed in a region-wide policy of seed certification assuring a supply of trees from artificial reforestation. The program was launched in 1949 in Western Oregon and Washington. It is the first of its kind in the nation. The details were announced January 26 by W. D. Hagenstein, chief forester, conservation commission, Pacific Northwest Forest Industries.

Under the plan, the Forest Industries tree nursery at Nisqually, Wash., which produces seedlings for planting through the Douglas fir region, hereafter will use only certified seed, he explained. Each company receiving trees from the nursery is supplying its own seed, paying particular attention to place of collection, elevation, form of parent trees, local climate and proximity to area needing artificial reforestation, he said. The nursery keeps records on each lot, and the tree progeny can be followed and studied.

Mr. Hagenstein said 22,200 acres of idle land were reforested by the industry last year in the Douglas fir region — the biggest total in history. The Nisqually nursery supplied 7,000,000 trees for hand planting in 12,700 acres; 9,500 acres were planted by helicopter. Five more companies employed foresters for the first time last year, making a total of 600 trained foresters now employed by 70 Western Oregon and Washington companies.

Mr. Hagenstein also said that the new utilization project in 1949 included a new hardboard mill, two new kraft pulp mills and the addition of chipping plants at several sawmills.

Increased Income From Forests

Canadian Government reports cash income from the sale of forest products sold from farms across the country increased to a total of $36,605,000 during the first nine months of 1949 as compared with $35,324,000 in the corresponding period of the preceding year.

Such income, by provinces, showed the following in 1949, with figures for previous year being given in brackets: Prince Edward Island, $188,000 ($181,000); Nova Scotia, $3,056,000 ($2,947,000); New Brunswick, $4,941,000 ($4,766,000); Quebec, $21,098,000 ($20,350,000); Ontario, $6,102,000 ($5,887,000); Manitoba, $256,000 ($254,000); Saskatchewan, $242,000 ($240,000); Alberta, $120,000 ($119,000); British Columbia, $602,000 ($580,000).

Forest Management Service

BOSTON, Mass. — The New England Forestry Foundation, Dr. Hugh P. Baker, president, is offering a forest management service to wood land owners at cost. This service consists of examination, foundation of a management plan, marketing, surveying and mapping. At present, there are two management centers in Massachusetts, four in New Hampshire, with others proposed in Vermont and Maine. Headquarters are at 3 Joy street, Boston.

Hold Forestry Demonstration

LOUISBURG, N. C. — A forestry thinning and selective cutting demonstration was held on the farm of Rhepsie Young, Louisburg, Route 1, recently.

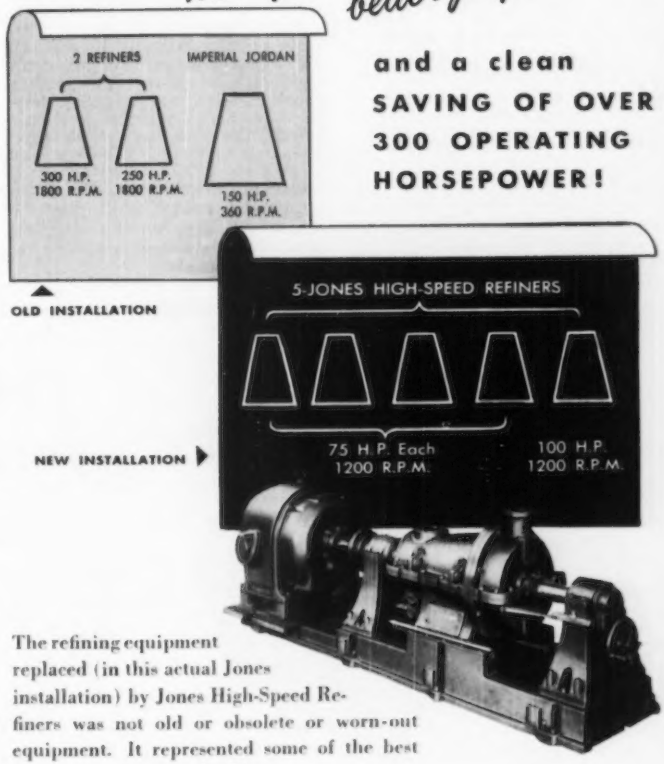
According to County Agent C. T. Dean, Jr., the pulpwood from this tract of timber has been sold to representatives of the International Paper Co., who were on hand to assist with the demonstration. The pulpwood crew demonstrated the latest in saws and other equipment used in the operation.

Mr. Dean said the purpose of the meeting was to give farmers of the county an opportunity to see the woods before they are thinned, after they are thinned, and the actual operation taking place. John Gray and J. C. Jones, extension forestry specialists from State College, assisted in conducting the demonstration.

New Hampshire's Forest Acreage

"In New Hampshire, as in most other states, increased demands for wood and wood products now make it practical and profitable to grow trees as a cash crop," Charles A. Gillett,

Better Control More flexibility better preparation



and a clean SAVING OF OVER 300 OPERATING HORSEPOWER!

The refining equipment replaced (in this actual Jones installation) by Jones High-Speed Refiners was not old or obsolete or worn-out equipment. It represented some of the best current competitive thinking.

Yet Jones High-Speed Refiners actually produced improved stock — at a saving of over 300 operating horsepower. They save on maintenance cost, too.

For more information, write for Bulletin EDJ-1011-A.

ED Jones

E. D. Jones & Sons Company, Pittsfield, Mass.

BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

managing director of American Forest Products Industry, announced recently.

New Hampshire's new forest estimates are based on the interpretation of aerial photographs and ground plot examinations. On a total wood volume basis, the survey showed New Hampshire forests contain 4,554,500,000 cubic feet of wood. This is 34 percent more than was shown in the Forest Service figures published in 1946. The new forest survey also shows an increase of 125,000 acres in total commercial forest area. The state's 4,847,800 acres of commercial timberland constitute 82 per cent of its total land area.

Forest Fire Prevention Contest

FREDERICTON, N. B. — In a two-pronged move aimed at providing new forest fire signs and slogans and at the same time making students more conscious of forest fires, the Maritime Section of the Canadian Society of Forest Engineers has posted thirty prizes totaling $590 for a school poster campaign.

Entrants may submit drawings, slogans or short essays under three hundred words from which drawings could be made. All children attending schools in Nova Scotia or New Brunswick from grades four to twelve may submit their entries in either French or English and have until March 1 to do their thinking.

Forestry and Government officials feel the move will achieve both aims and plan on making it an annual affair if members of the industry are willing to chip in with some assistance in the way of prize money.

States' Return From National Forests

United States Treasury checks totaling $7,719,301, or approximately 25 percent of the national forest receipts for the 1949 fiscal year, have been sent to states containing national forest land, the U. S. Department of Agriculture reported on February 10. The Forest Service says this represents the greatest return ever made to the states from national forests, surpassing last year's record payment of about $6,000,000.

MISCELLANY

Imported Paper Investigation

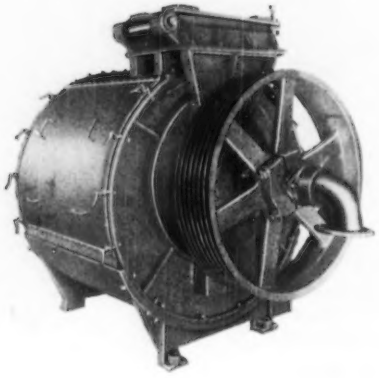
NEW YORK — High priced paper from England, including so-called offset printing paper and planagraph paper, entered at the rate for book paper are under investigation to determine whether they should be dutiable at the higher rate for writing paper, according to Warren. B. Bullock, manager of the Import Committee of the American Paper Industry. Also colored paperboard from Canada made of screening is being tested to determine whether it is test container board or a colored box board.

Several new cases before the United States Customs Court involve protests by importers against the rates of duty assessed by Customs officials. These include the following: English dart boards, classified as manufactures of paper at 35 per cent claimed to be dutiable as coated paperboard at 30 cercent; converted rolls of toilet paper classified for duty as manufactures of paper at 35 per cent claimed by a St. Paul importer to be dutiable at 15 per cent as paper cut into sheets; three shipments of English paper napkins and serviettes, classified for duty as manufactures of paper at 35 per cent claimed by a St. Paul importer to be dutiable at 15 percent as paper cut into sheets; three shipments of English paper napkins and serviettes, classified for duty as manufacturers of paper, claimed to be dutiable at 15 percent as paper cut into shapes, and four shipments of Japanese tissue paper held by Customs officials to have been undervalued by omission of Japanese inland freight.

Canadian Pulp and Paper Notes

TORONTO, Ont. — Timber control in Canada has now been reduced, in common with other controls, (in the gradual elimination of wartime regulations) to control over exports of pulp and sawlogs, and this will become part of the peace-time export control program of the trade and commerce department at the end of the government's fiscal year, March 31.

Canadian trade officials have been



THE COWAN PULP SCREEN

U.S. Patent 2246669

No other centrifugal screen equals it in performance or comes near.

This refers especially to groundwood, sulphate and sulphite pulps.

The design is clean and commonsense.

Ask for your copy of recent Bulletin D-400.

About Fifty Screens Now In Use In U. S. Mills.

Exclusive Licensee for the United States

MONTAGUE MACHINE COMPANY

TURNERS FALLS, MASS.

exploring the possibilities of exchanging pulp, wheat and whiskey for Japanese toys and silks. Top-level talks opened February 1 to expand trade with Japan. While Lester B. Pearson, external affairs minister, received Premier Shigeru Yoshida and two members of his parliament, Canadian economists met Gen. Douglas MacArthur's senior economic and scientific aides in trade talks. Before the war, Canada did a large-scale business with Japan and shipped $20,000,000 worth of goods there in 1938. Japan's government officials privately had been critical of the occupation's trade policies and said that under MacArthur the flow of goods between the two countries had been kept far below its potential. (Ottawa sources said it was natural that Allied control authority under MacArthur would favor trade between Japan and the U. S., but at the same time, it was hurting a revival of pre-war Canadian-Japanese business.)

A 17.9 per cent increase in national advertising linage in December, compared with the corresponding month in 1948, was reported by the Canadian Daily Newspaper Association. Total advertising during December showed a gain of 9.3 per cent over December, 1948. During the 12 months of 1949, national linage carried by Canadian daily newspapers was up 11.8 per cent; classified was up 4 per cent and local advertising up 11.6 per cent over 1948.

Canada's upsurge in population is of more than passing interest to manufacturers of all kinds, but particularly to manufacturers and converters of paper products. The increasing domestic market is a promising factor for the future. Canada's population is increasing by approximately 26,000 persons, (a fair-sized city) every month. At the present rate of increase, there should be 14,000,000 people in the Dominion by the end of this year. According to the Bureau of Statistics, the population at December 1, 1949, stood at 13,707,000. In the six months from last June to the December date, there had been an increase of 158,000. Moreover, the official census of 1941 showed Canada then had a population of 11,507,000. During the 12 months ending last June 1, the population increased by 662,000 persons. The natural increase amounted to 225,000 and the rest of the gain was due to immigration and the addition of the Province of Newfoundland.

Canadian Trade Train

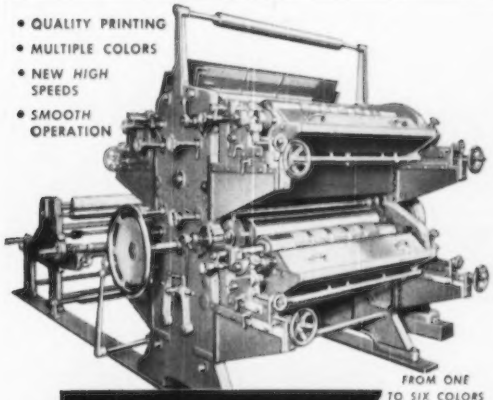
OTTAWA—Of keen interest to the Canadian paper trade is the report here that the Canadian Chamber of Commerce is proposing to its corporate members that a "Canadian Trade Train" should be organized in an effort to stimulate interest throughout the United States in Canadian products, with the assumption being that local Chambers of Commerce in the United States would co-operate in publicizing the visits of this train in their local areas since there is a close tie-up between the Chamber of Commerce in United States and Canada's organization, particularly in helping trading facilities between the two neighboring countries.

It is understood that the "Canadian Trade Train" would carry a cargo of Canadian products as well as Canadian salesmen on a tour of the United States, stopping at various cities where the goods could be seen and sales talk heard. If enough interest is shown in the project, the Canadian Chamber of Commerce is willing to sponsor it as a co-operative effort by business to boost sales of Canadian goods in United States.

"What is envisaged is not a train of exhibits calculated to spread general goodwill and information about Canada but rather a train of salesmen who can provide concrete facts and prices on terms which it is believed could be sold in the United States market. The salesmen traveling on such a train would have the advantage of the publicity which we hope could be organized through local Chambers of Commerce in the places visited," the letter continues. "But this means, too, there would be an opportunity to make useful business contacts."

"There is some evidence of a change in attitude in the United States," the letter adds, "and now appears to be the time for renewed selling efforts by Canadian business in the United States."

• QUALITY PRINTING
• MULTIPLE COLORS
• NEW HIGH SPEEDS
• SMOOTH OPERATION



FROM ONE TO SIX COLORS

ANILINE PRESSES

New designs and new presses to meet every production demand. Widths from 10 to 100 inches with from one to six color printing. Illustrated, is 4 color stack type press with center shaft rewind. Many other models now available. Write for further information.

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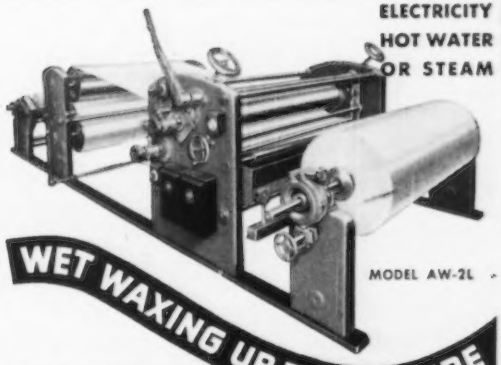
ELECTRICITY
HOT WATER
OR STEAM



MODEL AW-2L

WET WAXING UP TO 80" WIDE

A new model Wet Waxer . . . featuring compact construction, functional flexibility of use, high speed, and electric, hot water or steam heating. Built in widths from 10 to 80 inches. Other models available for dry or contact waxing. Write for further information.

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OBITUARIES

Sheldon C. Collins, 59, vice-president, production manager and director of the Rising Paper Co., died on February 11. He joined the Rising Paper Co., in 1915. He is survived by his widow and two sons, John M. and Stephen C.

Frank Walter, salesman for the Mayer Myers Paper Co. and formerly associated with the Memphis Paper Co. in a similar capacity, died February 9. He is survived by his widow, a son and a daughter.

Ley P. Rexford, 73, former president of the American Paper Products Co., died on February 7 at St. Louis, Mo. Surviving are his widow, Lucy Whitelaw Rexford; a son, Oscar; and a daughter, Mrs. Eugene S. Wilson.

Mrs. Edward C. Flynn, 42, of Pasadena, Calif., daughter of Mrs. Clifford W. Gaylord, died on February 10. Mrs. Gaylord's husband is president of the Gaylord Container Corp. Surviving are her husband; five sons and daughters; a brother, Gilbert; and a sister, Mrs. Gilford W. Snyder.

Etienne Tardiff, 71, on the staff of the E. B. Eddy Co. for the past 40 years, died at his home in Ottawa after a brief illness. Surviving are two sons and one daughter.

John Elliott Campbell, 88, of Tweed, Ontario, died in Vancouver, B. C., recently. He started in the lumber business in eastern Canada and came to British Columbia 48 years ago. At the Coast he acquired ownership of two lumber mills and a retail lumber yard. Although blind for several years prior to his death he continued to take a keen interest in business, as well as public and national affairs.

Ole Andrew Buck, 58, one of the founders of the Truck Loggers' Assn. of British Columbia, died in Nanaimo, B. C., recently. Mr. Buck had been in ill health for several years. He was elected to the directorate of the Truck Loggers' Assn. at its recent convention, despite the fact that he was in a hospital at the time. He was one of the organizers of this association and served as its president for several years. Born in Hammerfest, Norway, Mr. Buck came to Nanaimo 40 years ago. When power saws were introduced into the woods in British Columbia, Mr. Buck quickly realized that the greatest hindrance in their use was the lack of skilled operators. Under his guidance the British Columbia Truck Loggers' Assn. and the Dominion and Provincial governments combined in the establishment of a vocational school which turned out many war veterans with specialized training to equip them to use the most modern methods in the woods. He is survived by his widow and four sons, Oliver Andrew, George Edward, Harold Richard and Raymond Lawrence.

George P. Fleming, 80, died in Cavan, Ireland, on February 1. He was born in India of Scottish parents, and was brought up in Scotland and began his adult life in the paper milling industry. He went to Ireland first in 1909 to become manager of a paper mill in County Antrim, in Northern Ireland. Four years later he bought the Drimnagh Mills, County Dublin, and a little later established the Clondalkin Mills, near Dublin.

Edward A. Driscoll, foreman of the White & Wyckoff Manufacturing Co., died on February 14. He had been with the paper company for the past 50 years.

John B. Rice, 75, retired manager of the San Francisco, Calif., office of Hercules Powder Co., Wilmington, Del., died on February 12 in San Francisco. He is survived by his widow; a son, John B., Jr.; and a daughter, Marilyn.

AMERICAN PAPER AND PULP ASSOCIATION'S PAPER PRODUCTION RATIO REPORT

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

	Jan. 14	Jan. 21	Jan. 28	Feb. 4	Feb. 11
1950	100.4	100.7	99.4	‡101.1	102.1
	Jan. 15	**Jan. 22**	**Jan. 29**	**Feb. 5**	**Feb. 12**
1949	*94.7*	*95.2*	*94.3*	*95.1*	*94.2*

Capacity Base—183,384.

‡ Revised.

COMPARATIVE MONTHLY SUMMARIES

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1950	‡98.9												
1949	*94.6*	*92.8*	*89.1*	*85.1*	*82.7*	*78.6*	*72.8*	*87.6*	‡90.3	‡98.0	‡98.4	‡90.4	‡88.6

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1943	1944	1945	1946	1947	1948	1949	1950
Year to Date	87.6	88.7	86.8	95.2	104.2	100.5	94.7	99.6
Year Average	87.8	88.1	89.4	100.1	104.3	96.2	‡88.6	

PAPERBOARD OPERATING RATIOS†

	Jan. 14	Jan. 21	Jan. 28	Feb. 4	Feb. 11
1950	94	92	92	91	93
	Jan. 15	**Jan. 22**	**Jan. 29**	**Feb. 5**	**Feb. 12**
1949	*91*	*92*	*88*	*87*	*86*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1950	88												
1949	*88*	*85*	*79*	*79*	*78*	*75*	*64*	*86*	*87*	*94*	*93*	*83*	*83*

* All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

Chemical Inst. of Canada Meeting

OTTAWA—The convention of the Chemical Institute of Canada will be held in Toronto on June 19-23, 1950.

Allen of St. Regis Honored

WASHINGTON, D. C.—Tribute to J. H. Allen, vice president of the St. Regis Paper Co., as "the greatest living force in forest conservation and utilization" and as a pioneer developer of the South's paper industry, was paid in the House last week by Rep. Frank Boykin, of Alabama.

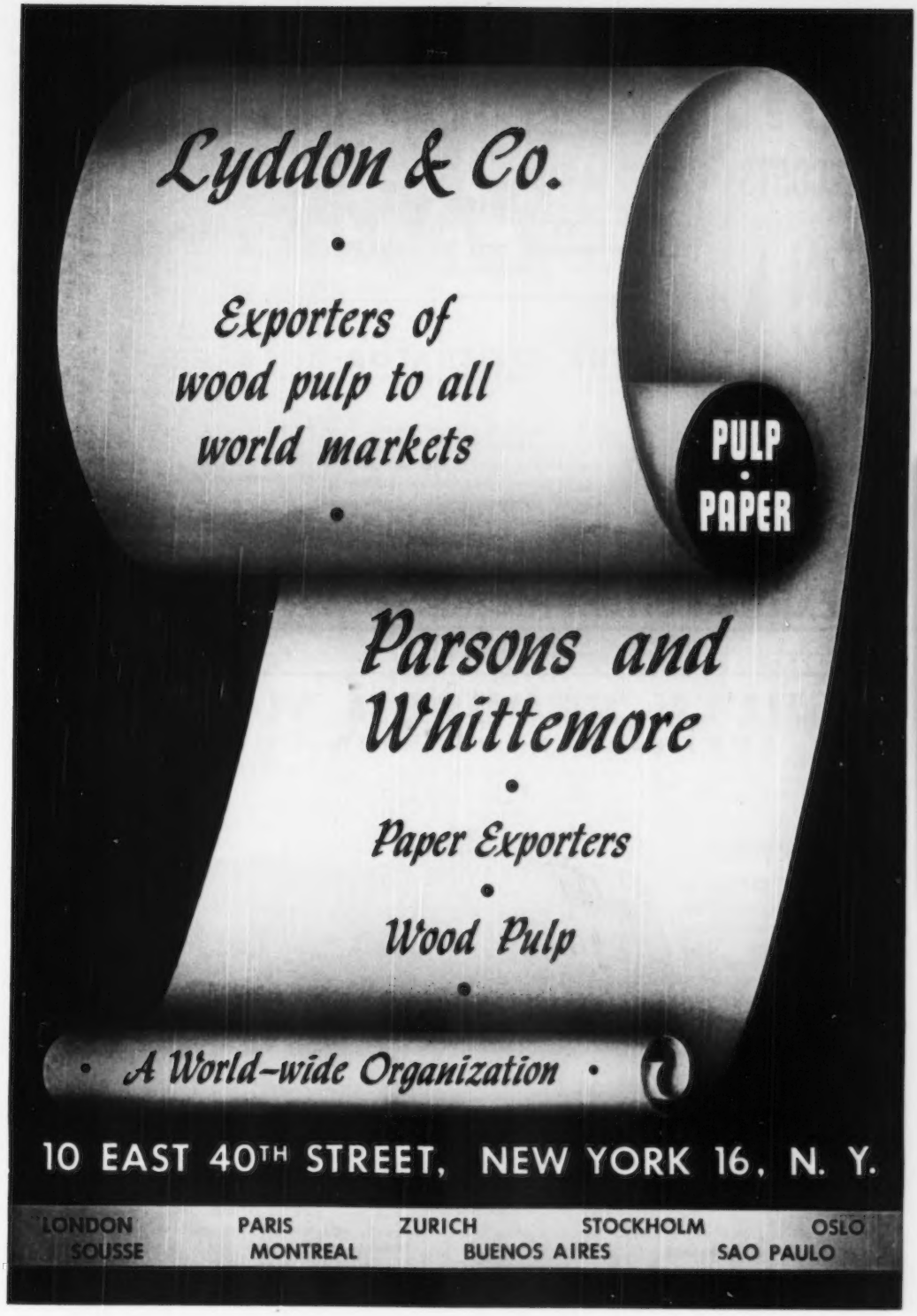
His references to Mr. Allen came in connection with a discussion of Reconstruction Finance Corporation activities in this connection, which the Congressman defended.

Recalling Mr. Allen's part in the paper industry's development in the South, Rep. Boykin said:

"One of the pioneers in manufacture of kraft paper from slash pine trees, he was responsible for establishment of the Mobile mill of the International Paper Co.

"As president of the Florida Pulp and Paper Co., with its main interests in Pensacola, Fla., he was active in the development of the great Southern Kraft Corp., which now operates mills in Mississippi, Louisiana, Alabama, Florida and South Carolina.

"In the years 1934 and 1935, he planned, organized and built the first pulp and paper mill at Savannah, Ga., and that was a development made possible only through the aid of the Reconstruction Finance Corporation.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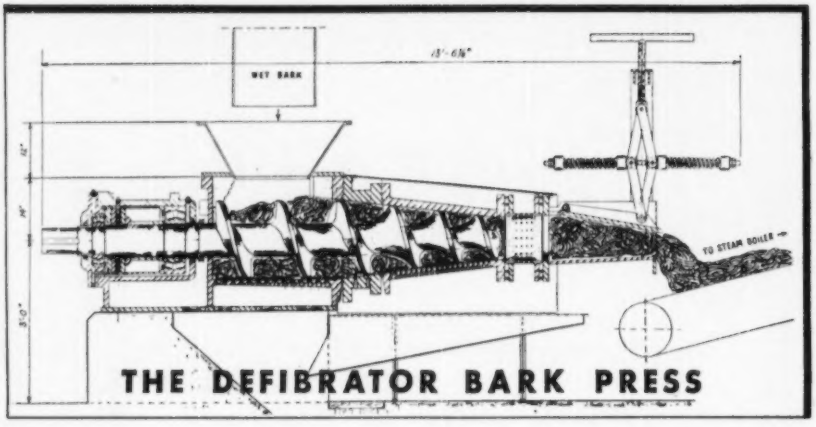
CUT FUEL COSTS BURN BARK



THE DEFIBRATOR BARK PRESS

Dewatered bark is good fuel. The Defibrator Bark Press, reduces the moisture content of wet bark to 55% or below. In this state, the bark burns readily, and has about half the fuel value of coal.

The press utilizes the Defibrator screw feed principle. Wet bark, containing about 85% water, is fed through a hopper to a tapered throat where it is compressed by a screw. The water is squeezed out and drains through numerous small holes. Further extraction takes place as the bark passes through the drainage pipe.

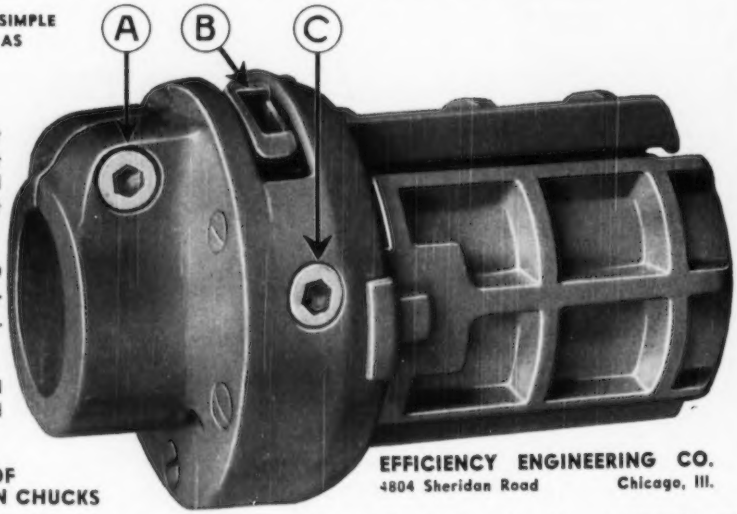
In installations now in operation, processing capacity is approximately 5 tons per hour (on a bone dry basis), and power consumption at this capacity runs between 35 and 40 H.P. Main body is cast steel; compression screw throat and outlet pipe are stainless steel; heavy duty bearings and construction throughout assure long life and minimum maintenance.

AMERICAN DEFIBRATOR, INC. CHRYSLER BUILDING NEW YORK 17, N. Y. *West Coast:* A. H. Lundberg Orpheum Building, Seattle, Wash.

CHUCK PROBLEM SOLVED

APPLYING-EXPANSION-CHUCKS

AS SIMPLE AS



INSTRUCTIONS

A—TO LOCK CHUCK at proper position on shaft insert hex wrench and tighten down socket bolt **A** firmly.

B—TO LOCK ROLL TO SHAFT insert flat bar tool at **B** and pull upward firmly.

C—TO LOCK EXPANSION —insert hex wrench and tighten socket bolt **C**.

EXCLUSIVE FEATURES OF EFFICIENCY EXPANSION CHUCKS

1—Both shaft and core are positively locked together.
2—Perfect alignment is assured.
3—It expands into place.
4—Solid and positive drive.
5—Equally effective for returnable—non-returnable—or metal cores.
6—No lefts or rights—Each chuck of a pair is the same.
7—Withstands unlimited tension.

EFFICIENCY ENGINEERING CO.
4804 Sheridan Road Chicago, Ill.

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BLEACHED SULPHITE PULP

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for the manufacture of Cellophane, Rayon and Products of Paper.

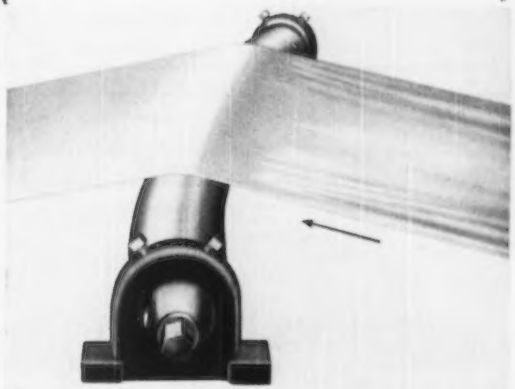
Restigouche
BLEACHED SULPHITE PULP

RESTIGOUCHE COMPANY, LTD.
Campbellton, N. B., Canada

PAPER CONVERTERS!

Get Rid of

WRINKLES *and* **CREASES**



With MOUNT HOPE
Free-Wheeling Expanders

MANY COMPANIES report, "We avoid costly shutdowns due to wrinkles and creases by using Mount Hope Expanders before our paper enters the converting machines."

COMPANY X* has at least one expander in use on every machine in the plant and the management is completely satisfied with their performance.

IN ACTUAL USE the Mount Hope Expander belies its name since it does the job without expanding the moist paper. It is equally effective with dry paper, eliminating baggy edges that cause out of register printing on offset and lithograph presses. Used on rewinders, it eliminates welts and wrinkles.

IF YOU have creasing and wrinkling problems, it will certainly pay you to investigate the advantages of Mount Hope Expanders.

COMPLETE INFORMATION and prices available on request without obligation.

Send for Bulletin EPX

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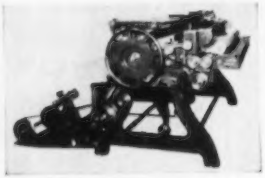
Representatives — Parkman Collins Company, Boston — for Maine; Ingalls Engineering Company, Providence — for N. H., Mass., R. I., and Conn.; John H. Andresen, Inc., Paterson — for Southern N. Y., N. J., and Pa.; Slaughter Machinery Company, Charlotte — for the South; S. S. Wilson, 1737 Howard Street, Chicago — for Mid-West; Sidney Springer, Los Angeles — for California; W. J. Westaway Company, Limited, Hamilton and Montreal — for Canada.

* *A large New England Paper Converting Company.*

STANDARD & FACIAL TISSUE ROLL CONVERTERS

WITH OR WITHOUT

Latest Improvements: Parent Roll Drive with Automatic Tensioning—Velvet Smooth, Quick Accelerating Clutch—Roll Wrappers That Will Handle Varying Diameters.



Slitters and Rewinders for Vulcanized Fibre and Heavy Board

•

Towel Interfolders for single interfold

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Special Machinery

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Spiral Tube Machines for Toilet Roll Cores

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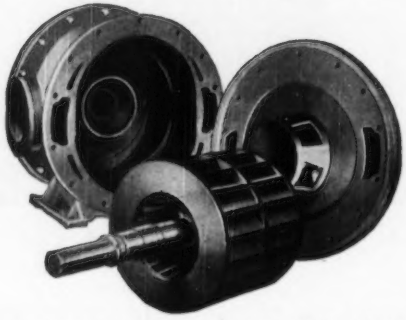
SIMPLICITY



NASH VACUUM PUMPS HAVE ONE MOVING PART

Operating advantages made possible by the Nash principle, and present in no other type of vacuum pump, permit a new level of operating economy. Nash Vacuum Pumps have but one moving part, a rotor cast in one piece, and revolving without metallic contact. There are no valves, no pistons or sliding vanes, no internal parts requiring wear adjustment or lubrication.

NASH ENGINEERING COMPANY

SOUTH NORWALK, CONNECTICUT, U. S. A.

PARAFFIN & MICROCRYSTALLINE WAXES

CARLOADS — TANK CARS — TRUCKS

NATIONAL WAX COMPANY

1300 WEST DIVISION STREET

CHICAGO 22, ILLINOIS

Money-Saving Tip from *Kalamazoo*

"LINE OLD TANKS WITH KALAMAZOO GLAZED TILE"

It isn't always necessary to replace old concrete tanks that are pitted and letting sand get in your stock. Such tanks make an ideal base for Kalamazoo Glazed Tile. Gives you a "new" tank *at low cost* that will last for years and years without attention. Tile lets you modernize your chests and improve agitation with midfeathers and rounded corners. Write for full particulars—no obligation, of course.

Kalamazoo TANK and SILO COMPANY

225 HARRISON STREET — KALAMAZOO, MICHIGAN

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Oil-Ink (Letter-Press) PRINTING PRESSES

Model 418 4-color multi-size, oil-ink printing press for all types of coffee, flour and sugar bag papers and printed wrappings. Automatic tension control rewind insures tight, evenly wound rolls.

ANILINE PRESS

S.O.S.

POTDEVIN presses are available in a wide range of types and sizes. Incorporation of supplementary units for slitting, perforating or punching, make POTDEVIN presses universally adaptable. High speed models from one to six colors for drinking cup paper; coffee, sugar, flour bag papers; cellophane; glassine; parchment, etc.

Consult our engineers on any problem. No obligation. Literature on request.

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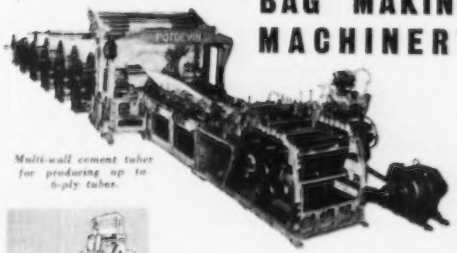
Designers and manufacturers since 1893 of equipment for Bag Making, Printing, Coating, Gluing and Labeling.

POTDEVIN

POTDEVIN

multi-wall heavy duty BAG MAKING MACHINERY



Multi-wall cement tuber for producing up to 6-ply tubes.

ANILINE PRESS

GLUE MILL ROLL HEADER

POTDEVIN completely equips the modern bag plant for high speed production of 2, 3, 4, 5, and 6 wall heavy-duty bags. Multi-wall valve bags with sewn ends or open-mouth bags with pasted self-opening square type bottoms—sack type bottoms—sewed-end type bottoms . . . all can be made with POTDEVIN equipment.

Consult our engineers on any problem. No obligation. Literature on request.

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Designers and manufacturers since 1893 of equipment for Bag Making, Printing, Coating, Gluing and Labeling.

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METALS — I.B.B.M., all iron, bronze or stainless steels, body parts plain or rubber lined.

The photo of 24" Fig. 241 I. B. B. M. valve while illustrating the gate bottom wedge system for forced gate seating and "GUILLOTINE" edge for shearing fibre at seat also shows the packing box and yoke as separate units. Both adjustable.

- The "FAST THREADED" screw stem and ball bearing speeds valve operation.
- The packing box is extra deep, is adjustable and provided with specialized lubricated packings and special type gland and compression bolts.
- The yoke mountings are such that yokes for various methods of gate operation are interchangeable.
- Replaceable gate edge shoes are used in valves 10" and larger. These shoes are of special value when valves are installed stem and pipe horizontal.

"RECORD PRODUCTS EXTENSIVELY USED IN DEFENSE PROJECTS."

RECORD FOUNDRY & MACHINE COMPANY

LIVERMORE FALLS, MAINE, U. S. A.

Photo, Courtesy J. M. Huber Corporation

Single Instrument Measures Smoothness, Porosity and Softness of Paper

You just interchange the lower test plates in the GURLEY-HILL S-P-S Tester to convert it into an instrument for testing either smoothness, porosity or softness of any type of paper, by measuring a given air-leakage over or through the paper.

This 3 in 1 laboratory "assistant" is simple to operate, quick and accurate, and a real utility instrument where printing quality of paper must be reliably measured.

Bulletin No. 1400 describes the S-P-S Tester as well as other Gurley paper testing instruments. It's worth writing for today. W. & L. E. Gurley, 520 Fulton St., Troy, New York.

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. . . In Valuable Man Hours

The faster—more efficient operation of the Bridgeport 174 Knife Grinder means definite savings in man hours. High table speeds, automatic feed, and heavy rigid construction assure uniformly sharp edges in less time—particularly when grinding high carbon, high chrome knives.

Model 174 grinds knives from 66 to 240 inches long.

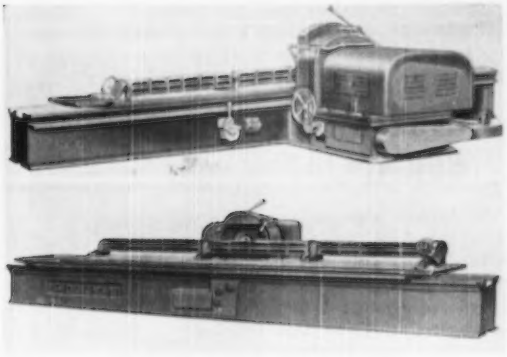

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Table speed of 80 feet per minute—automatic feed .0002 to .004 per pass—hydraulic controlled multiple disc clutch—operator has view of work from centralized control position.

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Timken roller bearing spindle—sectional grinding wheel—wheel dresser—Bijur pressure lubricated Vee bed and flat way—choice of mechanical or magnetic chuck—oversize coolant tank with centrifugal pump—rugged heavy construction throughout.

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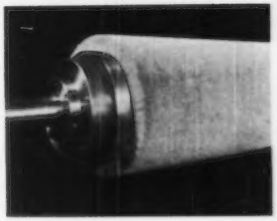

with METLKOR* POLISHERS

A paper mill was not satisfied with the quality of the work produced by its polishing machine. It felt the fault was the lack of uniformity of bristle density and trim of the brushes it was using. It changed to METLKORS and immediately a great improvement was noted in the quality of the polishing.

Later the production department, under pressure from the management to increase output, speeded up the brushes. By having us dynamically balance their METLKORS they were able to increase production 100 percent over the highest speed ever before obtainable, without any compromise on quality.

This experience has been repeated by other paper mills who tried other types of brushes and finally standardized on METLKORS.

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JENKINS' BRUSHES ARE USED

for spreading coatings, polishing, spraying, dusting, scrubbing, rubbing in, and brushing, by coated paper and wallpaper mills.

Furnished with any bristle desired; nylon, China, grey, and Badger hair.

Get the facts about all Jenkins' better brushes, cylindrical and flat, designed and constructed for the specific requirements of the paper industry.

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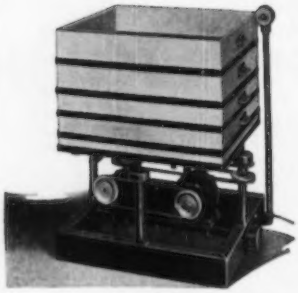

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Pulp Testing Ovens
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Only Johnson Joints offer *all* these cost-cutting, trouble-saving, production - boosting benefits. *Only* Johnson Joints end *all* the shortcomings of old style stuffing boxes, without compromise of any sort. No wonder so many hundreds of mills, and so many machinery manufacturers, have standardized on Johnson Joints. Why not find out how quickly Johnson Joints can pay their own way in your mill.

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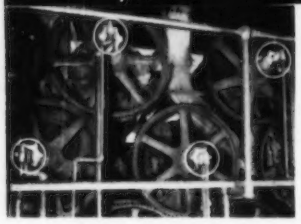

Write for catalog showing sizes and styles for all needs.

Installation in a midwestern mill — some of the 562 Johnson Joints purchased by this company.

The JOHNSON CORPORATION, 828 Wood Street, Three Rivers, Michigan

CHARGE OF THE ENLIGHTENED BRIGADE!

All furnace charges are under the rigid control of skilled metallurgists, "Our Enlightened Brigade", who supervise every step in the manufacture of Chief Sandusky Centrifugal Castings. The laboratory control of the selection and testing of alloys, and the exclusive use of specified ingot and virgin metals will give you the flawless, uniform castings you need.

Tell your machine builder, "Chief Sandusky."

ON THE JOB—Charging a furnace for a Chief Sandusky Centrifugal Casting.

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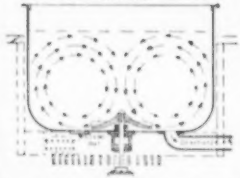

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A GOOD INVESTMENT which in many Paper Mills returns its cost TWO TIMES EVERY YEAR.

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POWER PLANTS

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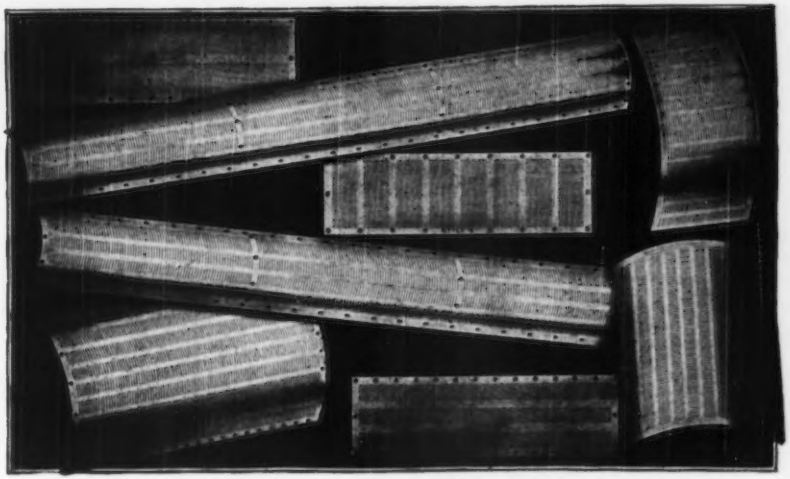

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Complete Service
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DESIGN, CONSTRUCTION, MODERNIZATION

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SIER-BATH GEAR COUPLING

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BOUND BROOK, N. J.
Builders of Paper Converting Machinery

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Engineers
PAPER & PULP MILLS • WASTE DISPOSAL • TEXTILE MILLS •
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10 to 1 you can cut your lime-recovery costs as much as 50%. Our scientific tests will show actual savings possible. Details on procedure gladly furnished, no obligation. Delay costs you money. Write today.
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A Highly Purified Enzyme Product
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STAINLESS STEEL CASTINGS
for all equipment exposed to corrosion by sulphite acids or other corrosive agents
MICHIGAN STEEL CASTING CO., DETROIT 7, MICH.

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HELP WANTED

HELP WANTED

WANTED PAPER MILL SUPERINTENDENT

A six-machine division of a large Canadian paper company, located in a city, making bonds, ledgers, sulphite specialties, and light weight tissues. Man required must have managerial ability, in addition to practical experience in both paper machine operation and stock preparation. This position carries an attractive salary and is an exceptional opportunity for the right man. Give complete information concerning experience and education in your first reply. Reply Box 50-49, c/o Paper Trade Journal,

F-23

ASSISTANT PLANT ENGINEER

Assistant Plant Engineer is required for a Kraft Pulp and Paper Mill making specialties in Eastern Canada. Duties of the Assistant Engineer include supervision of Draughting Office, laying out pulp and paper mill equipment, design of equipment where necessary, technical investigations in the mechanical field in connection with problems affecting production, studies of maintenance cost and the like. He must be sufficiently competent to assume the responsibilities of the Plant Engineer in the latter's absence.

Preferred qualifications are a Mechanical Engineering degree, coupled with a good knowledge of electrical maintenance practice and some knowledge of electrical engineering generally. Paper mill experience is desirable. A knowledge of French is also desirable, but fluency in this language is not necessary.

Preference will be given to a candidate from 30 to 40 years old, other things being equal. Salary will be determined in relation to the experience and qualifications of the successful applicant.

In your application please give full details of educational background, age, experience, both military and civil, and expected salary. Box No. 50-99 care Paper Trade Journal.

M-16

SALESMEN

Salesmen now covering Ohio or Michigan, Minnesota or Wisconsin who can carry a sideline of machine clothing. Splendid opportunity to represent a well-established successful company. Charles P. Raymond Service, Inc., 294 Washington St., Boston, Mass.

F-23

Classified Advertising Brings Results

WANTED

Experienced Steam and Power Plant Engineer for a Paper Mill having two 500 H.P. Modern Boilers and 1600 K.W. Generating Capacity.

Prefer man with paper mill experience. Give age, qualifications and salary expected. Box No. 50-94 care Paper Trade Journal.

M-9

FIRST-CLASS MACHINE TENDER WANTED

Good opportunity for aggressive man having full knowledge and experience on straight Fourdrinier paper machine, manufacturing .009 corrugating medium, tube stock and light weight specialties. To be in complete charge of paper machine while on tour. State age, machine experience and salary. Address reply to:

Wallkill Paper Mills, Inc.
P. O. North Hoosick, New York

M-2

PROGRESSIVE PENNSYLVANIA TISSUE MILL has opening for qualified man to assist Superintendent. Start as night superintendent and progress to assistant day superintendent as ability is proven. State age, experience, education and salary desired. Address Box 50-51 care Paper Trade Journal. M-9

SALARIED POSITIONS $3,500—$35,000

If you are considering a new connection communicate with the undersigned. We offer the original personal employment service (40 years recognized standing and reputation). The procedure, of highest ethical standards, is individualized to your personal requirements and develops overtures without initiative on your part. Your identity covered and present position protected. Send only name and address for details.

R. W. BIXBY, INC.
117 Dun Bldg., Buffalo 2, N. Y.

TF

WANTED—First class Machine Tender experienced on test liner and folding boxboard. Good wages. Mill in Central State. Give full details of experience. Address Box 50-68 care Paper Trade Journal. M-2

MEN WANTED
Positions Open

We can place general superintendent book, offset, wall paper, base stock, specialties, etc.; superintendents and asst. supts. for sulphite, groundwood and kraft papers; night supt. Fourdrinier machine paper mill; supts. for Cylinder machine mills on board and tissues.

Mechanical Engineer and head draftsman experienced in building paper and pulp mill machinery; head design engineering dept., $7,000 to $9,000; master mechanics; plant engineers.

Chemist and chemical engineers for mill positions up to $6,000 a year, also for selling and demonstrating chemicals; chemists for paper converting and packaging plants; working foreman finishing folding boxboards; foreman finishing and super-calendering; laminating machine operator and supervisor; salesman for office work in folding paper box plant; folding carton salesman; salesman to carry sidelines.

We invite correspondent (confidential) with executives seeking positions and with employers seeking new personnel.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington Street, Boston, Mass. F-23

FOLDING BOXBOARD SALESMAN

An excellent opportunity for an experienced man, in the Metropolitan New York or Philadelphia area. Mill capable of making all grades of folding boxboard. Only applicants outlining full qualifications will be considered. Drawing account. Address Box 50-90, care Paper Trade Journal. F-23

WANTED for New York and Pennsylvania, Southern and Middle Western Territories, representatives to sell imported paper machine wires. Apply with full particulars as to age and experience to Box 50-93 care Paper Trade Journal. F-23

ASSISTANT TO GENERAL SUPERINTENDENT—Four machine tissue mill, Fox River Valley, Wisconsin. Machine experience required. Address Box 50-63 care Paper Trade Journal. F-23

WANTED—Papermaker to help consult regarding large Fourdrinier Machine Glazed Tissue Machine. Desiring some one unemployed. Address Box 50-97 care Paper Trade Journal. M-2

SITUATIONS WANTED

TECHNICAL EXECUTIVE—Broad experience in supervision of paper and board manufacturer, research and coating and saturating. Knows mill costs and is proficient in organization. Address Box 50-96 care Paper Trade Journal. M-16

RATES FOR CLASSIFIED ADVERTISING

HELP WANTED—10c a word. Double rate for heavy face type. Minimum charge $2.50.

SITUATIONS WANTED—10c a word, double rate for heavy face type. Minimum charge $2.50. If repeated ½ rate will be charged for each consecutive repetition.

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OPPORTUNITIES—10c a word. Double rate for heavy face type. Minimum charge $2.50.

Classified advertising space may also be purchased at $5.00 per single column inch. All classified advertisements are payable in advance. If box number is used—70 cents additional.

Address replies to advertisements appearing under Box Numbers in care of PAPER TRADE JOURNAL, 15 West 47th Street, New York 19, N. Y.

SITUATIONS WANTED

PAPER BAG SUPERVISOR—27 years practical experience. Manufacture Kraft, Glassine, dry wax, some wet wax. Good production. Best of References. Age 45. Change due to working conditions. Address Box 50-73, care Paper Trade Journal. F-23

GRADUATE CHEMIST—Nine years experience in research and technical control, including pulping, bleaching, papermaking and paper treatment. Desires position with aggressive expanding organization. Address Box 50-86 care Paper Trade Journal. M-9

PLANT MANAGER—Board and Paper Conversion; employed; seeks opportunity in company needing cost-minded executive with proven production record and excellent labor relations history. Address Box 50-8 care Paper Trade Journal. F-23

MILL MANAGER

desires position with a progressive company. Has a practical and technical knowledge of kraft, sulphite and groundwood pulp manufacturing and their conversion into newsprint, kraft and sulphite specialty papers. Has a proven record of cost reduction methods, quality improvement and the ability to obtain maximum production from the equipment at hand. Practices friendly but firm labor relations. University graduate in chemistry plus additional university study in business administration.

If you are looking for a cost conscious and technically informed executive, in his late thirties, write to Box 50-85 Paper Trade Journal for full particulars and references. F-23

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FOR SALE

1—45" Dornbusch embosser, excellent condition.
1—Logeman fully automatic controlled baler, 220 Volt motor and control. Makes 500 lb. bale.
1—Miller wrapping machine.
1—Impco 3' x 8' vacuum sludge filter, new in 1942.
1—84" No. 6 Cameron slitter.
5—Dryers 60 x 174".

FRANK H. DAVIS CO.
175 Richdale Ave., Cambridge, Mass. M-16

FOR SALE—Cameron 72" wide Roll Slitter and Rewinder, Motor and Knives. Ready for immediate delivery. Price very low. THEO. ADAMS, 111 W. WASHINGTON STREET, CHICAGO, ILLINOIS. M-2

BUY U. S. SAVINGS BONDS

FOR SALE

1—Plain Extractor Roll 42" diameter x 150" face.
1—112" Cameron Type 18.

HARKERS
1—9' Carthage Disc Barker

BEATERS
1—400 lb Beater—iron tub

BEATER (Laboratory)
1—Dilts Iron Tub Laboratory Beater. Beater roll 14" diameter x 10½" face, including motor.

BRASS FELT ROLLS
9—4" diameter x 140" face (with bearings)

BREAST ROLLS
1—120" x 14"
1—100" x 14"
1—114" x 14"

CALENDER STACKS
1—72" 5 roll Calendar Stack.
1—76" 7 roll calender stack (heavy duty).
1—2 roll pressure calender—32" x 108".
1—2 roll Calender Stack—16" diameter x 50" face.

CHIPPERS
2—96" Murray 4 knife Chippers.

CORE CUTTERS
1—Core Cutter.

CRUSHER & HAMMERMILL
1—Murray Chip Crusher.
1—Jeffrey Hammermill.

CYLINDER MOULDS
1—36" diameter x 80" face.
1—30" diameter x 72" face.
1—36" diameter x 79" face.
1—36 x 88
1—36 x 62

DECKERS
1—Decker—48" diameter x 84" cylinder mold
3—Pusey & Jones Deckers Cylinder molds 42 x 146, anti friction bearings, including rubber covered couch rolls.
3—IMPCO 75½" face x 30" diameter cylinder mold.

DRIVES
2—#4 Reeves Drives.
1—#2 Reeves Drive.
1—Smith & Winchester mortise gear Drive.
1—Foote—7½ h.p. Speed Reducer (Ratio 240 to 1)
2—Smith & Winchester Mortise Gear Drives with 20" diameter clutches—Ratio 8 to 1.
1—#5 Reeves drive.

DRIVES (Angle)
1—General Machine Company 16 : 1.
1—Philadelphia 50:1 — 1 h.p. — 1200 r.p.m.
2—Philadelphia 21¼:1 — 3 h.p. — 1200 r.p.m.

V-BELT DRIVE
(1—21½" diameter x 7½" face, 5 groove.
(1—16½" diameter x 7½" face, 5 groove.
((With clutch).

DRYERS
30—36" diameter x 102" face.
7—24" diameter x 48" face.
9—36" diameter x 72¼" face, with gears and bearings.
1—48" diameter x 91" face.
2—25" x 120" (Baby Dryers).
2—36" x 143".
1—24" x 130".
1—60" diameter x 47" face.
3—36" diameter x 96½" face.
1—48" diameter x 70" face.
2—48" diameter x 92" face.
1—48" diameter x 82" face.
2—36" diameter x 76" face.

EMBOSSER
1—84" Hudson Sharp Toilet Embosser. Spare engraved roll.

FELT ROLLS
20 Felt Rolls—Brass covered 8" to 12" diameter.

FLAT SCREENS
1—6 plate Shartle Flat Screen
6—12 plate IMPCO Flat Screens with Dunbar Drives.

FRAMES
Vertical frames for 65 42" dia. dryers—with bearings.

FRICTION CALENDERS
2—30" Waldron.
2—38" Waldron.

HYDRAULIC PRESS
1—Watson-Stillman Co. (Platen 24" x 24")

JORDANS
2—Noble and Wood—Mammoth Type.
1—Emerson Jordan—25 to 30 tons capacity—iron plug including new spare iron plug.

MISCELLANEOUS
1—Caustic Mixer

MOTORS
2—400 h.p. General Electric—450 r.p.m—with starters.
2—5 h.p. ball bearing—splash proof motors—3/60/440, 1160 r.p.m.
1—½ h.p. ball bearing—splash proof gearhead motor—3/60/440, 1725 r.p.m
1—2 h.p. ball bearing—splash proof gearhead motor—3/60/440, 1725 r.p.m.

PRESSES
4 Sections of presses approximately 24" diameter. Rubber and Bronze.

PRESS ROLLS
Various sizes.

PRINTING MACHINE
1—3 color 40" Rotary Cottrell Printing Machine, A-1 condition, provision for 2 more colors.

PULLEYS
Various cone and assorted pulleys.

PULPERS
1—Jones Pulper. Complete with motor and drive.
1—Noble & Wood Pulper—Iron Tub.

PUMPS
2—Weil Pump Co.—100 g.p.m.—100 P.S.I. including 15 h.p. motors (new equipment).
1—Bell & Gossett—300 g.p.m.—120' head—including 15 h.p. motor.
1—Goulds Sump Pump—50 g.p.m.—20' head—including motor.
Various sizes of Centrifugal and Plunger Pumps. Write us regarding your particular requirements.

REEL
1—72" Beloit Reel.

ROLLS
500—Brass tube-steel tube—rubber covered iron rolls—various sizes.

ROTARY SCREENS
1—#2 Bird Rotary Screen.
1—#2A Bird Rotary Screen.

SAVEALLS
1—Saveall—48" dia. x 84" cylinder mold.
3—Pusey & Jones Savealls. Cylinder molds 42 x 146, anti friction bearings, including rubber covered couch rolls.

SCREEN PLATES
20 Plates cut .016
10 Plates cut .008
Also other sizes and cuts in stock

SHEETERS
1—136" Moore & White Sheeter, duplex with layboy.
2—36" Sheeters.
2—46" Sheeters.
2—50" Sheeters.

SLITTERS AND WINDERS
1—84" Cameron—Type 8-10.
1—72" Cameron—Type 10-5.
1—72" Cameron—Type 10-11.
1—62" Cameron—Type 6.
1—50" Cameron—Type 24 2T
1—42" Cameron—Type 40 4 R
1—42" Cameron—Type 24-2-A.
1—42" Cameron—Type 9 S
1—42" Cameron Constant Tension with pneumatic control
1—115" 2 drum Waldron

SQUEEZE ROLL
1—Rubber Squeeze Rolls, 20¾" diameter x 102" face.

STOCK PUMPS
1—10 x 20 Shartle Duplex.
2—7 x 16 Shartle Duplex.
3—7 x 16 Shartle Triplex.
Numerous other Centrifugal Stock Pumps Advise as to your requirements.

SUCTION BOXES
5—Suction Boxes, 82" drilled face x 6" wide

SUCTION COUCH ROLL
1—24¾" diameter x 160" drilled face
1—Sandusky 14.5" dia. x 103" drilled face.

SUCTION PRESS ROLL SHELL (Only)
1—29¾" diameter x 134" drilled face

SUPERCALENDER STACK
1—54" 9 roll supercalender stack, completely rebuilt including motors, etc.

TABLE ROLLS
40—Table Rolls 82" face x 3" diameter

TOILET and TOWEL MACHINES
2—Dietz 81" Toilet & Towel Machines

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1—56" Smith & Winchester—Undercut

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2—Proctor & Schwartz Tunnel Dryers, 10 ton and 5 ton capacity

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46 Chilled Iron Rolls—Assorted sizes.

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1—36" diameter x 136" face Cylinder molds with vats, couches—ball bearing.
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1—Falk 60 h.p. Ratio 13 to 1. R.p.m. 1470-113. Herringbone gears.
1—E1 Reeves—ball bearing.
1—E2 Reeves—ball bearing.

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1—74" face x 28" diameter with gears.
5—143" face x 48" diameter.
6—124" face x 48" diameter.
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1—Downingtown—64" face x 17" diameter with bearings & stand.

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1—P & J 136" x 80 ft. ball bearing. Complete from inlet to 22" diameter suction couch. Brass and Rubber covered table rolls. 8 Brass Suction Boxes operated at 1000' per minute.
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1—Voith Inlet for 151" wire with 28" slice. Complete, including drive.
1—96" All bronze—adjustable.
1—141" Beloit complete with distributor roll.

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2—Jones Standard.
1—#3 Miami, for motor drive.
1—Jones Majestic, roller bearing—stainless steel filling—for motor drive.
4—Jones Majestics with base and couplings—bronze filled, 2 sets of new bronze fillings.
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1—Cavagnaro 2 roll 12" calender. Steam fitted rolls.
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1—Noble and Wood 4 lb. Beater.

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1—Fairbanks Morse — 50 h.p. — 495 r.p.m. — 220/440/3 ph.—60 cycle.
1—Reliance 25 h.p. ball bearing, 650 v., 3 phase, 60 cycle—1750 r.p.m.

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30—Split cast iron tapered Pulleys.

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1—Jigger—1 deck—vibrating screen.
1—Wifts & Morrill #17 Pulpwood chipper.
1—4' Carthage Disc Barker.
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44—Centrifugal Pumps, open & closed Impellers. Direct connected or Belt Driven. Extended base for motor. Assorted capacities and heads. Most used less than one year. Also new Goulds Pumps.

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1—Beloit 132" two bowl upright reel.
1—Beloit 116" two bowl upright reel.

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32—Press rolls, brass and rubber covered.
14—Couch rolls, brass and rubber covered.
250—Brass and steel carrying rolls.

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2—Jones Leithwalk—cylinder 84" face x 28" diameter.
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1—Putney & Jones 82" Fourdrinier Machine Complete.

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2—Valley Voith Screw Presses Size 2A with one spare sets of plates.

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1—Beloit Duplex 104", complete with drive.
1—Hamblet Duplex—136".
1—Hamblet 12 roll heavy duty doubledeck backstand.
3—Hamblet 67" single knife with 8 roll backstand.
1—Moore & White 90" with 6 roll back stand, motor and 4 slitters.

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1—American 32" Hammermill, anti-friction bearing.
2—Sprout Waldron Cutters — type F-11 — 30" knives. Used 30 days.

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2—Pusey & Jones 160" high speed slitters and rewinders.
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1—Cameron 42"—26—with motor and controls.
1—Cameron 42"—226—with motor and controls.
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1—Langston 50" with 15 sets shear cut slitters.
1—Camachine 10 Model 14—72"—ball bearing—rewinds 60" with constant tension 20 h.p. motor and controls—26 integral slitters.
1—76" Warren two drum slitter and winder.

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1—Shartle 8½x12 Triplex—Silent Chain Drive.

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1—Millspaugh 22" diameter x 138¾" suction face.
1—Millspaugh 22" diameter x 136" drilled face.
1—Beloit 107" drilled face x 22" diameter. Anti friction bearings.
1—Millspaugh—14½" diameter x 93" drilled face.
1—Downingtown 82" drilled face x 14 9/16" diameter—rebuilt.

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1—Downingtown 25" diameter x 180" drilled face.
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1—7 roll 65" face.
1—7 roll 56" face.
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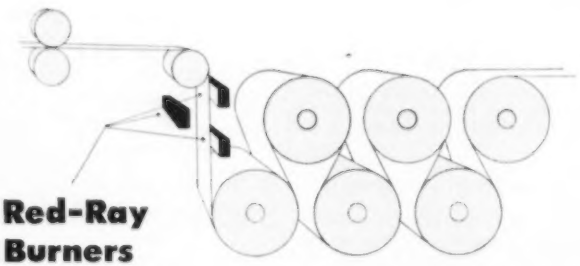

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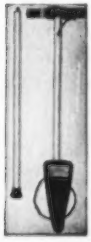

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Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works
Waldron Corp., John

CRANES

Cleveland Crane & Engrg. Co.
Industrial Brownhoist Corp.
Link Belt Company
Whiting Corp.

CURL TESTER

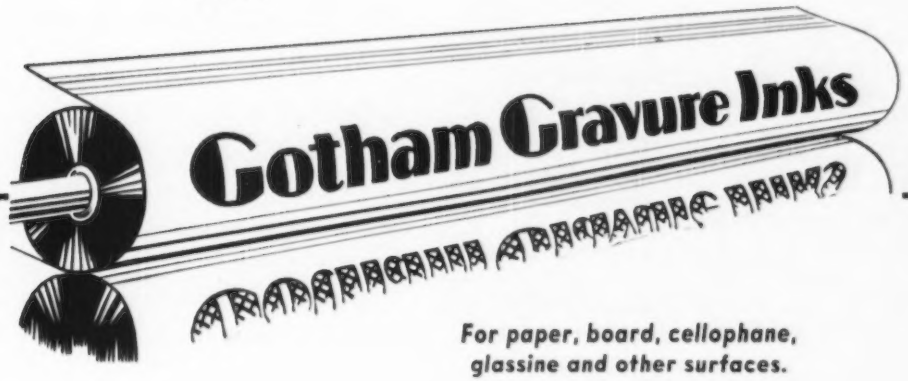
Thwing-Albert Instrument Co.

CUTTERS

Dilts Machine Works
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Moore & White Co.
Perkins & Son, Inc., B. F.
The Smith & Winchester Mfg. Co.
Taylor, Stiles & Co.

RUN!!

with



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WHERE TO BUY

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National Tube Co.

DAMPENERS
Perkins & Son, Inc., B. F.
Valley Iron Works Co.

DECKLE WEBBING
Williams-Gray Co.

DE-INKING
Dilts Machine Works
General Dyestuff Corp.
Kinsley Chemical Co.
Roderick O'Donoghue
Shartle Brothers Machine Co.

DEINKING CHEMICALS
E. I. Du Pont De Nemours & Co., Inc.
General Dyestuff Corp.
Kinsley Chemical Co.
Monsanto Chemical Company

DE-MINERALIZING EQUIPMENT
Hungerford & Terry, Inc.

DENSOMETERS
W. & L. E. Gurley

DESIGN CONSTRUCTION
Ebasco Services

DETERGENTS
Calgon, Inc.
Cowles Chemical Co.
General Dyestuff Corp.
Monsanto Chemical Company
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp.

DEWAXING CHEMICALS
General Dyestuff Corp.
Nopco Chemical Co.

DIFFERENTIAL SCALES
Thwing-Albert Instrument Co.

DIGESTERS
Babcock & Wilcox Co.
The Biggs Boiler Works Co.
Lukenweld
Pusey & Jones Corp.

DIRTEC
Bird Machine Co.

DISPERSING AGENTS
Calgon, Inc.
General Dyestuff Corp.
Monsanto Chemical Company
Nopco Chemical Co.
Rohm & Haas Co.

DOCTORS
Bird Machine Company
Black Clawson Company
Downingtown Mfg. Co.
Lobdell Co.
Lodding Engineering Corp.
The Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

DOCTOR BLADES
Bird Machine Company
Lodding Engrg. Corp.
The Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

DRIERS
Black Clawson Company
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
Hardinge Company, Inc.
Lukenweld
The Moore & White Co.
Murray Mfg. Co., D. J.
T. J. Rose Company
Red-Ray Mfg. Co., Inc.
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.
The Youngstown Welding & Engrg. Co.

DRIVES
Allis-Chalmers Mfg. Co.
Appleton Machine Co.
Bird Machine Co.
Black Clawson Company
Dilts Machine Works
Downingtown Mfg. Co.
Fairbanks, Morse & Co.
Farrel-Birmingham Co.
General Electric Company
Gibbs-Brower Company, Inc.
Rodney Hunt Machine Co.
Link Belt Company
Moore & White Co.
Murray, D. J., Mfg. Co.
Pusey & Jones Corp.
T. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Valley Iron Works Co.
Westinghouse Electric Corp.

DRYER DRAINAGE
Stickle Steam Specialties Co.

DRYER ROLL PYROMETER
Thwing-Albert Instrument Co.

DUSTERS
Appleton Machine Co.
Downingtown Mfg. Co.
Frank W. Egan & Co.
M. W. Jenkins Sons, Inc.
E. D. Jones & Son Co.
Moore & White Co.
D. J. Murray Mfg. Co.
John Waldron Corp.

DUSTING BRUSHES
M. W. Jenkins Sons, Inc.

DYESTUFFS
American Cyanamid Company, Calco Chemical Div.
Ciba Company
E. I. du Pont de Nemours & Co., Inc.
Geigy Co., The
General Dyestuffs Corp.
National Aniline Division, Allied Chemical & Dye Corp.

ELECTRIC HYGROMETER
Thwing-Albert Instrument Co.

EMBOSSING ROLLS
The Appleton Machine Co.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Northern Engraving & Mch. Co.
B. F. Perkins & Son, Inc.
John Waldron Corp.

EMULSIFIERS
General Dyestuff Corp.
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp.

ENZYMES
Rohm & Haas Co.
Pillsbury Mills, Inc.
Vanderbilt Co., R. T.

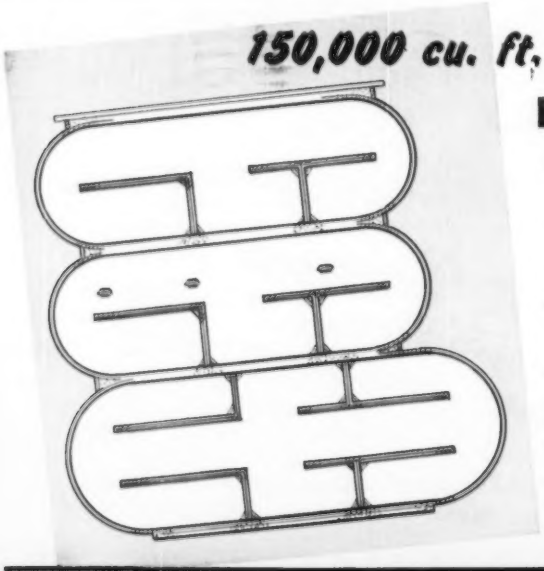
EVAPORATORS
Davis Engrg. Corp.
Goslin-Birmingham Mfg. Co., Inc.
Murray, D. J., Mfg. Co.
Swenson Evaporator Co., Div. of Whiting Corp.

EXPANDERS
Mount Hope Machinery Co.

FANS
General Electric Co.
B. F. Perkins & Son, Inc.
Ross Engineering Co., J. O.
Stephens-Adamson Mfg. Co.

FEEDERS
Hardinge Company, Inc.
Merrick Scale Mfg. Co.
Leeds & Northrup

FELTS
Appleton Wooden Mills
Asten-Hill Mfg. Co.
Draper Bros. Corp.
Huyck & Son, F. C.
Lockport Felt Co.
Mt. Vernon-Woolbury Mills, Inc.
Morey Paper Mill Supply Co.
Orr Felt & Blanket Co.
Shuler & Benninghofen
Waterbury Felt Co.
Waterbury, H., & Sons Co.
Williams-Gray Co.



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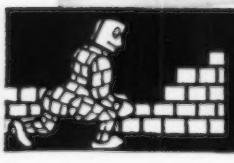
for Slush Pulp System

THE three Semtile chests shown in plan will provide absolutely clean storage for three kinds of pulp in slush form, ready for pumping to the beaters or stock preparation system. When you have decided on your chest requirements for any stock handling or storage system, consult Stebbins to obtain the best possible construction for long time dependable service.



SEMCO
Stebbins Engineering and Manufacturing Company
369 EASTERN BOULEVARD, WATERTOWN, NEW YORK

FELT CLEANERS
Calgon, Inc.
Cowles Chemical Co.
General Dyestuff Corp.
Nopco Chemical Co.

FELT CONDITIONERS
Bird Machine Co.

FELT GUIDES
Black Clawson Company
Frank W. Egan & Co.
Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Waldron Corp., John

FILLERS
American Cyanamid Company, Industrial Chemicals Division
A. M. Meincke & Son, Inc.
Vanderbilt Co., R. T.
Witco Chemical Co.

FILTERS
Bird Machine Company
Hardinge Company, Inc.
Hungerford & Terry, Inc.
Johnson Corp.
Moore & White Co.
J. O. Ross Engrg. Corp.
Witco Chemical Co.
Walworth Company

FITTINGS
Crane Company
The Kuhns Bros. Co.
Walworth Company

FLEXIBLE COUPLINGS
Ajax Flexible Coupling Co.
John Waldron Corp.

FLOORING, GRATING AND TREADS
The Goodyear Tire & Rubber Company
Norton Co.

FLOW BOXES, STAINLESS-CLAD
Lukens Steel Co.

FORK LIFT TRUCKS
Towmotor Corp.

FORMATION
Thwing-Albert Instrument Co.

FORMING MACHINES
Black Clawson Company
Downingtown Mfg. Co.
The Moore & White Co.
Noble & Wood Machine Co.
Oliver United Filters, Inc.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

FREENESS TESTERS
Testing Machines, Inc.

GASKETS
The Goodyear Tire & Rubber Company

GEARS
Black Clawson Company
De Laval Steam Turbine Co.
Downingtown Mfg. Co.
Frank W. Egan & Co.
Farrel-Birmingham Co.
E. D. Jones & Sons Co.
Link-Belt Company
Moore & White Co.
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Westinghouse Electric Corp.

GRINDERS
Carthage Machine Co.
Farrel-Birmingham Co.
Gibbs-Brower Company, Inc.
Lobdell Co.
Norton Company
Samuel C. Rogers and Company
The Sandy Hill Iron & Brass Works

GRINDING WHEELS
Norton Company

GUIDES, WEB
Askania Regulator Company
The Moore & White Co.
Mount Hope Machinery Co.
Round Brook Engrg. Co.
John Waldron Corp.

GUMMING MACHINES
Dilts Machine Works

GUMS
National Starch Products, Inc.
Stein-Hall Co., Inc.

HEADS
Babcock & Wilcox Co.
Lukens Steel Company

HEAT EXCHANGERS AND RECOVERY SYSTEMS
Davis Engrg. Corp.
Stickle Steam Specialties Co.
Westinghouse Electric Corp.

HEATING, VENTILATING & AIR CONDITIONING
The Appleton Machine Co.
Armstrong Machine Works
Davis Engrg. Corp.
E. D. Jones & Sons Co.
General Electric Co.
Leeds & Northrup
Minneapolis-Honeywell Regulator Co.
D. J. Murray Mfg. Co.
Red Ray Mfg. Co., Inc.
Ross Engineering Corp., J. O.
Stickle Steam Specialties Co.
Valley Iron Works Co.
Westinghouse Electric Corp.

HOSE
(Air, Water, Suction, etc.)
The Goodyear Tire & Rubber Company

IMPREGNANTS
American Anode Div.

INDENTING MACHINES
Dilts Machine Works

INDUSTRIAL TRACTORS
Towmotor Corp.

INKOMETER
Thwing-Albert Instrument Co.

INSTRUMENTS, TESTING AND MEASURING
Askania Regulator Company
Bauer Brothers Co.
N. P. Bowsher
The Bristol Company
The Brown Instrument Co.
E. J. Cady Company
Cochrane Corp.
General Electric Company
W. & L. E. Gurley
Leeds & Northrup Company
National Technical Laboratories
B. F. Perkins & Son
Photovolt Corp.
Taylor Instrument Cos.
Testing Machines, Inc.
Thwing-Albert Instrument Co.

JOINTS
Johnson Corp.
Perfecting Service Corp.

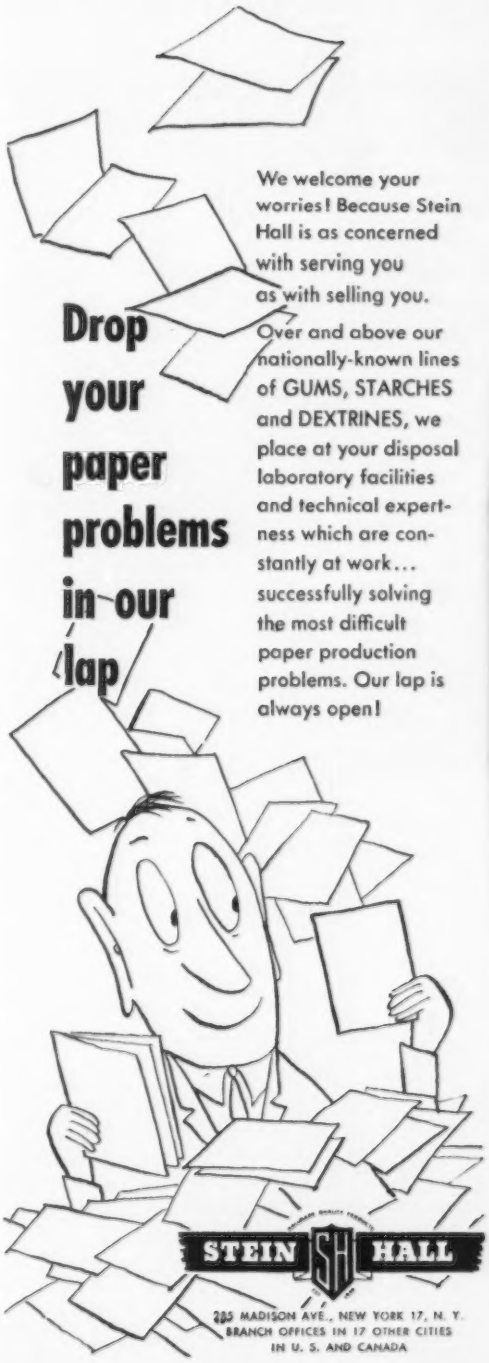
JORDAN FILLINGS
Appleton Machine Co.
Bahr Brothers Mfg. Co.
E. D. Jones & Sons Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

KNIVES
Black Clawson Company
Dilts Machine Works, Inc.
Hamblet Machine Co.
Herppenstall Company
E. D. Jones & Sons Co.
The Moore & White Co.
Taylor Stiles & Co.
Valley Iron Works Co.

KNOT BORING MACHINES
DeZurik Shower Company

LABORATORY CORRUGATOR
Thwing-Albert Instrument Co.

LABORATORY EQUIPMENT
Appleton Machine Co.
Bauer Brothers Co.
The Biggs Boiler Works Co.
Bird Machine Company
Dilts Machine Works
W. & L. E. Gurley
E. D. Jones & Sons Co.
Leeds & Northrup Company
National Technical Laboratories



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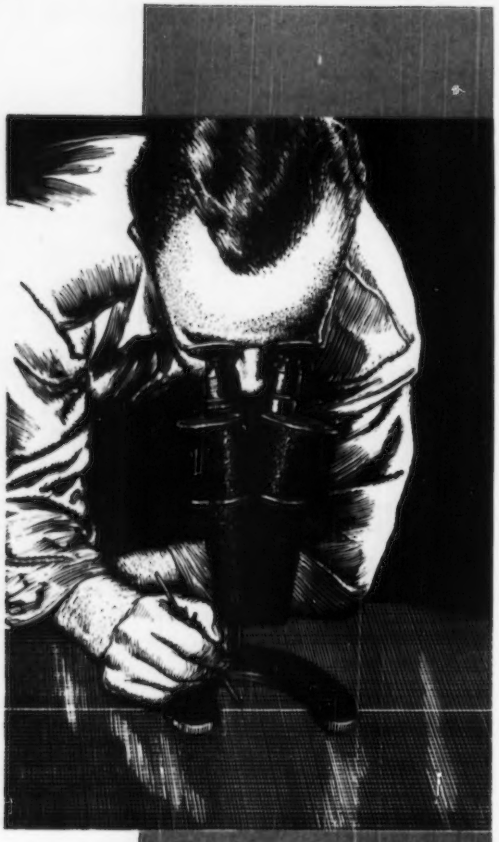

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For over half a century, master craftsmen have been perfecting experience-proven manufacturing techniques... another reason why *Appleton Wires are Good Wires.*

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Taylor Instrument Companies
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Valley Iron Works Co.

LAMINATING MACHINES
Dilts Machine Works

LAY BOYS
Dilts Machine Works
Gibbs-Brower Company, Inc.
Hamblet Machine Co.
Moore & White Co.

LUBRICANTS
Sinclair Refining Co.
Socony-Vacuum Oil Co.
Sun Oil Company
The Texas Company
Tide Water Associated Oil Co.

MAGAZINE REELS
Dilts Machine Works (Kohler Systems)

MATERIALS HANDLING
Cleveland Crane & Engrg. Co.
Frank G. Hough Co.
Stephens-Adamson Mfg. Co.
The Wellman Engrg. Co.

MICROMETERS & CALIPERS
Farrel-Birmingham Co.
Lobdell Co.
Testing Machines, Inc.

MOISTURE CONTENT CONTROL
Stickle Steam Specialties Co.

MOTORS AND GENERATORS
Allis-Chalmers Mfg. Co.
Fairbanks, Morse & Co.
General Electric Company
Reliance Electric & Engrg. Co.

NICKEL AND NICKEL ALLOYS
The International Nickel Co.

NOZZLES
Link Belt Company

PACKING BOXES
Johnson Corporation
The Moore & White Co.
Perfecting Service Corp.
Shartle Brothers Machine Co.

PAPER MACHINES
Bagley & Sewall Co.
Black Clawson Company
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Lukenweld
Moore & White Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.

PAPER MACHINE SLICES
Black Clawson Company
E. D. Jones & Sons Co.
The Moore & White Co.
The Sandy Hill Iron & Brass Works
Valley Iron Works Co.

PAPER TUBE MACHINERY
Dietz Machine Works
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Hudson Sharp Machine Co.
Langston Co., Samuel M.

PASTING MACHINES
Black Clawson Company
Dilts Machine Wks.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Murray, D. J., Mfg. Co.
Moore & White Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corp., John

PERFORATED METAL
Allis-Chalmers Mfg. Co.

pH METERS
Thwing-Albert Instrument Co.

PIGMENTS
Ferro Enamel Corp.

PIPE
American Cast Iron Pipe Co.
Armco Drainage & Metal Products, Inc.
Babcock & Wilcox Co.
Crane Company
Michigan Pipe Co.
Michigan Steel Casting Co.
National Tube Co.
Walworth Company
Youngstown Welding & Engrg. Co.

PIPE FITTINGS
American Cast Iron Pipe Co.
The American Rolling Mill Co.
Crane Company
Michigan Steel Casting Co.
Walworth Co.

PIPE MARKERS
W. H. Brady Co.

PITCH CONTROL
General Dyestuff Corp.
Monsanto Chemical Company
Rohm & Haas Co.

PLATERS
Gibbs-Brower Company, Inc.
Perkins & Son, Inc., B. F.

PLATES
Armco Steel Corp.
Babcock & Wilcox Co.
The Biggs Boiler Works Co.
J. O. Ross Engrg. Corp.
Lukenweld Division
Lukens Steel Company
Timken Roller Bearing Co.

PLUGS
The Appleton Machine Co.
Black Clawson Company
E. D. Jones & Sons Co.
Shartle Brothers Machine Co.

PRECISION SAMPLE CUTTER
Testing Machines, Inc.
Thwing-Albert Instrument Co.

PRESERVATIVES
E. I. du Pont de Nemours & Co.
General Dyestuff Corp.

PRESSURE VESSELS STEEL AND ALLOY
Babcock & Wilcox Co.
The Biggs Boiler Works Co.

PRESSES
Black Clawson Company
Dietz Machine Works
Farrel-Birmingham Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Hudson Sharp Machine Co.
The Moore & White Co.
Paper Converting Machine Co., Inc.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.
Waldron Corp., John
H. G. Weber & Co., Inc.
Williams Apparatus Co.

PULP CLASSIFIER
The Bauer Bros. Co.
Thwing-Albert Instrument Co.

PULP STOCK VALVES
Crane Company
Record Fdy. & Mach. Co.
Shartle Brothers Machine Co.

PULPERS
American Paper Machy. & Engrg. Works, Inc.
Bauer Brothers Co.
Dilts Machine Works
E. D. Jones & Sons Co.
Shartle Brothers Machine Co.

PULPS
Brown Company
Gottesman & Co., Inc.
Elof Hansson, Inc.
Lydden & Co. (America), Inc.
Parsons & Whittemore, Inc.

WHERE TO BUY

Perkins-Goodwin Co.
Price & Pierce, Ltd.
Pulp and Paper Trading Co.
Pulp Sales Corp.

PULPSTONES

Norton Company

PUMPS

American Paper Machy. & Engrg. Works, Inc.
Allis-Chalmers Mfg. Co.
Black Clawson Company
Byron Jackson Co.
DeLaval Steam Turbine Co.
Dorr Company
Downingtown Mfg. Co.
Fairbanks, Morse & Co.
Gibbs-Brower Company, Inc.
Johnson Corp.
Moore & White Co.
Nash Engineering Co.
Roots Connersville Blower Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Warren Steam Pump Company

RADIANT BURNERS

Red-Ray Mfg. Co., Inc.

RAG COOKING PROCESSES

The Kitsley Chemical Company
General Dyestuff Corp.
Rohm & Haas Co.

RAG CUTTERS

Gibbs-Brower Company, Inc.
B. F. Perkins & Son, Inc.
Taylor-Stiles & Co.

RECAUSTICIZING PLANTS

The Dorr Company

RECOVERY SYSTEMS

Babcock & Wilcox Co.
Bulkley, Dunton Pulp Co., Inc.
Rodney Hunt Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
Pusey & Jones Corp.
Ross Engineering Corp., J. O.
Valley Iron Works Co.

REELS

The Appleton Machine Co.
Black Clawson Company
Downingtown Mfg. Co.
Hudson Sharp Machine Co.
Moore & White Co.
Paper Converting Mch. Co.
Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
The Smith & Winchester Mfg. Co.

REFINERS

Appleton Machine Co.
Bahr Brothers Mfg. Co.
Bauer Brothers Co.
Dilts Machine Works
Gibbs-Brower Company, Inc.
E. D. Jones & Sons Co.
Morden Machines Co.
Murray, D. J., Mfg. Co.
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Sutherland Refiner Corp.
Valley Iron Works

REGULATORS

American Paper Machy. & Engrg. Works, Inc.
Allis-Chalmers Mfg. Co.
Armstrong Machine Works
Bird Machine Company
The Bristol Company
DeZurik Shower Company
General Electric Co.
Johnson Corp.
Leeds & Northrup Company
Minneapolis-Honeywell Regulator Co.
National Technical Laboratories
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Taylor Instrument Companies
Wallace & Tiernan

RESINS

American Cyanamid Company, Industrial Chemicals Division
The Dow Chemical Company
The Goodyear Tire & Rubber Company
Hercules Powder Co.
Monsanto Chemical Company
Rohm & Haas Co., Resinous Products Div.

ROLLS

American Cast Iron Pipe Co.
Appleton Machine Co.
Black Clawson Company
Downingtown Mfg. Co.
Frank W. Egan & Co.
Farrel-Birmingham Co.
Gibbs-Brower Company, Inc.
Lobdell Co.
Edward J. McBride & Co.
The Moore & White Co.
D. J. Murray Mfg. Co.
Perkins, B. F., & Sons Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Co.
Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
U. S. Rubber Co.
Valley Iron Works Co.
Waldron Corp., John
The Youngstown Welding & Engrg. Co.

ROLL COVERS

The Cincinnati Rubber Mfg. Co.
The Goodyear Tire & Rubber Company
Edward J. McBride & Co.
Stowe-Woodward, Inc.

ROLL HANDLING EQUIPMENT

Dilts Machine Works (Kohler Systems)

ROLL STANDS

Cameron Machine Co.
Frank W. Egan & Co.
Moore & White Co.
Potdevin Machine Co.
John Waldron Corp.
H. G. Weber & Co., Inc.

ROPE CARRIERS

The Moore & White Co.

ROTARY BOILERS

The Biggs Boiler Works Co.

ROTARY STEAM JOINTS

Johnson Corp.
The Moore & White Co.
Perfecting Service Corp.

RUBBER PRODUCTS

The Goodyear Tire & Rubber Company

SATURANTS

American Anode Div.

SATURATING MACHINES

Dilts Machine Works
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Moore & White Co.
Noble & Wood Machine Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.

SAVEALLS

Bird Machine Company
Hardinge Company

SCALES

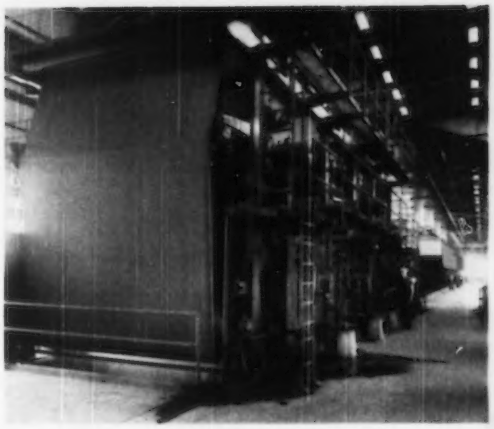
Fairbanks, Morse & Co.
Merrick Scale Mfg. Co.
Testing Machines, Inc.

SCREEN PLATES

Bird Machine Company
Fitchburg Screen Plate Co.
Magnus Metal Corp.
Morey Paper Mill Supply Co.
Testing Machines, Inc.

SCREENS

Allis-Chalmers Mfg. Co.
Appleton Wire Works
Appleton Machine Company
Bird Machine Company
Carthage Machine Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.



ORR
REPRESENTATION

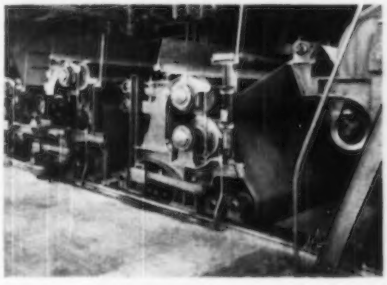
No supplier ever built two identical paper machines. Even though the same set of prints is used the machines differ in more ways than one — each has a personality of its own.

A little closer tolerance here, a little difference in adjustment there — an infinitesimal difference in the bearings — all such variations affect the drag on a felt, its porosity, its term of life.

Thus are posed problems for the felt manufacturer and therein lies the chief reason why Orr keeps in close touch with the mills through trained field representatives.

Orr representatives are always available on call — always ready to lend a helping hand and be of service.

ORR-CHEM (Treated) FELTS — **STANDARD (Untreated) FELTS**
For every mill requirement.



The Orr Felt & Blanket Co.
PIQUA, OHIO

WHERE TO BUY

E. D. Jones & Sons Co.
Link Belt Company
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Stephens-Adamson Mfg. Co.
Valley Iron Works Co.

SHEET MACHINES

Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Valley Iron Works Co.

SHOWER PIPES

Bird Machine Company
DeZurik Shower Company
Downingtown Mfg. Co.
Moore & White Co.
Sandusky Fdy. & Mch. Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.

SHREDDERS

Bauer Brothers Co.
Carthage Machine Co.
Gibbs-Brower Company, Inc.

SIZING

American Cyanamid Company, Industrial Chemicals Division
The Dow Chemical Company
du Pont, E. I., de Nemours & Co.
Hercules Powder Co.
The Hubinger Co.
Monsanto Chemical Company
National Aluminate Corp.
Stein-Hall Co., Inc.

SIZING TESTER

W. & L. E. Gurley
Testing Machines, Inc.
Thwing-Albert Instrument Co.

SLIME CONTROL

The Dow Chemical Company
E. I. du Pont de Nemours & Co.
General Dyestuff Corp.
Monsanto Chemical Co.
National Aluminate Corp.
Rohm & Haas Co.
Vanderbilt Co., R. T.

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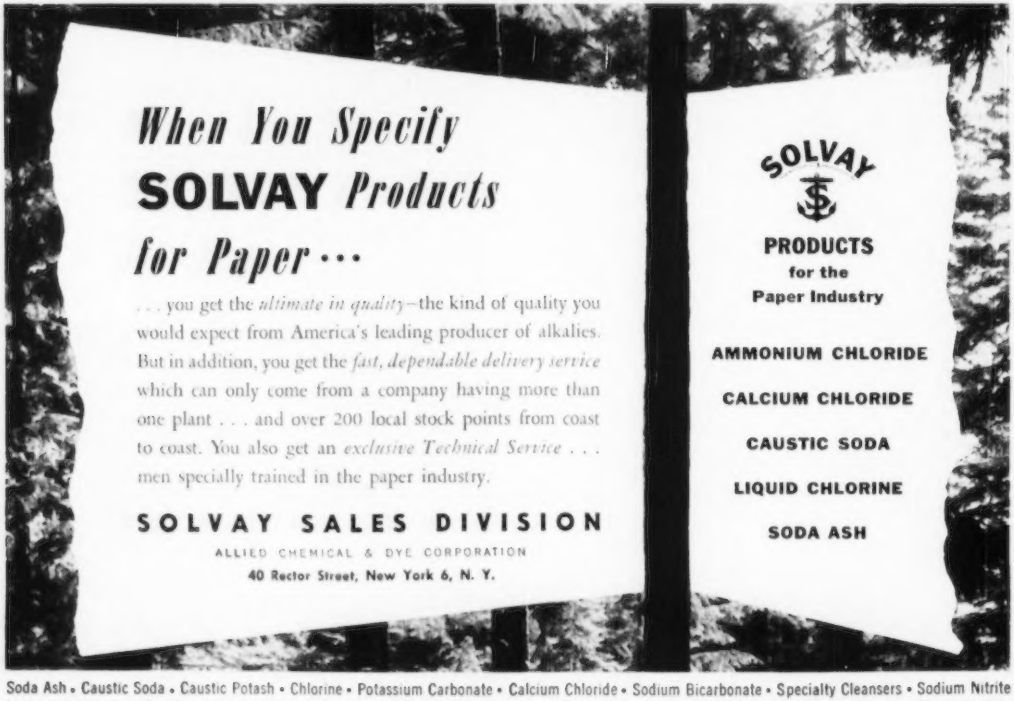
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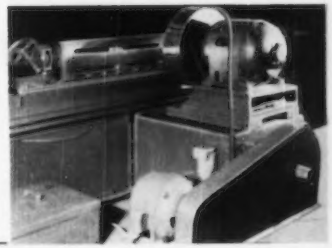

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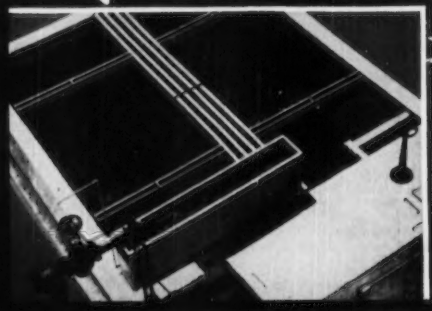

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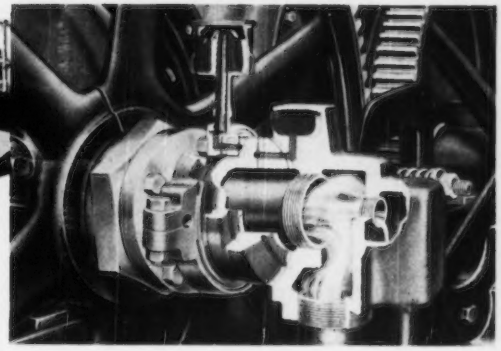

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